

PREP BATCH REPORT

Prep Code: **PRP-3010**
 Prep Batch **163290** Prep Temp **91 °C**

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

Prep Start Date: **1/27/2022 8:25:34 AM**
 Prep End Date: **1/27/2022 4:50:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recovered	Final Vol (mL)	Factor	Balance	Prep Start Date	Prep End Date
MB-163290			50	0	0	50	1		1/27/2022	1/27/2022
	Temp cell D2, supervised by JPV									
LCS4-163290			50	0	0	50	1		1/27/2022	1/27/2022
B22011592-001B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022
B22011592-001BMS4			50	0	0	50	1		1/27/2022	1/27/2022
B22011592-001BMSD4			50	0	0	50	1		1/27/2022	1/27/2022
B22011592-006B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022
B22011592-012B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022
B22011592-017B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022
B22011592-022B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022
B22011592-027B	Ground Water		50	0	0	50	1		1/27/2022	1/27/2022

Number	Reagent Name	Exp Date
14614	50mL DigiTubes J526127-2104	12/10/2022
14626	Nitric Acid 69.0- 70.0% D0521	12/14/2026
14758	Hydrochloric Acid, 36.5-38.0% 0000275677	12/15/2025

Spk ID	Spike Name	SampType	AmtAdd	Exp Date
ME211202 EL200	EL-200.2MS	LCS4/MS4	0.05 mL	12/2/2022
ME220124 AUDI	AUDIGSPK	LCS4/MS4	0.05 ml	10/25/2022
ME220125 EL-MS	EL-MSICV-2	LCS4/MS4	0.05 ml	1/25/2023

Energy Laboratories Inc

ANALYTICAL RUN Summary

07-Feb-22

Run ID ICPMS207-B_220131A

Run Start Date: 1/31/2022 12:20:56
 Analyst: Stacy R. Hendricks
 Ical: 0
 Column ID:
 Comments: Supervised by CAR

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
ME220112 0.025 PPB STAND	0.025 ppb Standard					CAL1	11/18/2022
ME220112 0.05 PPB STAND	0.5 ppb Standard					CAL2	11/18/2022
ME220112 0.1 PPB STANDAR	0.1 ppb Standard					CAL3	11/18/2022
ME220112 0.5 PPB STANDAR	0.5 ppb Standard					CAL4	11/18/2022
ME220112 1 PPB STANDARD	1 ppb Standard					CAL5	11/18/2022
ME220112 10 PPB STANDAR	10 ppb Standard					CAL6	11/18/2022
ME220112 100 PPB STANDAR	100 ppb Standard					CAL8	11/18/2022
ME220112 50 PPB STANDAR	50 ppb Standard/CCV					CCV	11/18/2022
ME220112 7900 INTERNAL ST	Internal Standards 2 mg/L					SAMP	2/8/2022
ME220112 SS1	SS1 ICPMS Spiking Solution					LFB	12/8/2022
ME220112A 1000 PPB STAND	1000 PPB Standard					CAL10	11/18/2022
ME220114A Tune Solution	Tune Solution						12/7/2022

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009768	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:20:	1	R373996		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					
15009769	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:27:	1	R373996		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					
15009770	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:33:	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
15009771	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:39:	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
15009772	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:45:	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
15009773	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 12:52:	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
15009774	Cal Blk	ICPMS-6020-W-	SAMP		1/31/2022 12:58:	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	0	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	0	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	0	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0	0		0	0	0	0.00063	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					
15009774	Cal Blk	ICPMS-6020-W-	SAMP		1/31/2022 12:58:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	0	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009775	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/31/2022 1:05:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001082	0.0001082		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00002311	0.00002311		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00006583	0.00006583		0.000025	0	0		0.001		263%	80	120	0%	S
Barium	A	mg/L	0.0000241	0.0000241		0.000025	0	0		0.0003		96%	80	120	0%	
Beryllium	A	mg/L	0.00001497	0.00001497		0.000025	0	0		0.001		60%	80	120	0%	S
Boron	A	mg/L	0.00003947	0.00003947		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00002518	0.00002518		0.000025	0	0		0.001		101%	80	120	0%	
Calcium	A	mg/L	0.008314	0.008314		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00002285	0.00002285		0.000025	0	0		0.001		91%	80	120	0%	
Chromium	A	mg/L	0.00005748	0.00005748		0.000025	0	0		0.001		230%	80	120	0%	S
Cobalt	A	mg/L	0.00002844	0.00002844		0.000025	0	0		0.001		114%	80	120	0%	
Copper	A	mg/L	0.00004515	0.00004515		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0006709	0.0006709		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.00002395	0.00002395		0.000025	0	0		0.001		96%	80	120	0%	
Lead	A	mg/L	-9.408E-07	-9.408E-07		0.000025	0	0		0.001		-4%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009775	0.025 ppb STD	ICPMS-6020B-C Cal1			1/31/2022 1:05:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lithium	A	mg/L	0.0002329	0.0002329		0.0003125	0	0		1		75%	80	120	0%	S
Magnesium	A	mg/L	0.005778	0.005778		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00002539	0.00002539		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	1.773E-06	1.773E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00001982	0.00001982		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00002772	0.00002772		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.009405	0.009405		0.00625	0	0		1		150%	80	120	0%	S
Selenium	A	mg/L	0.00003683	0.00003683		0.000025	0	0		0.005		147%	80	120	0%	S
Silicon	A	mg/L	0.0002907	0.0002907		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00001756	0.00001756		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.004971	0.004971		0.00625	0	0		1		80%	80	120	0%	
Strontium	A	mg/L	0.00003305	0.00003305		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	0.00001977	0.00001977		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.0000119	0.0000119		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0007991	0.0007991		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.0001422	0.0001422		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00002328	0.00002328		0.000025	0	0		0.001		93%	80	120	0%	
Vanadium	A	mg/L	0.001078	0.001078		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001799	0.0001799		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0006709	0.0006709		0.000025	0	0		0.01	5	2684%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.0006221	0.0006221		0.0000535	0	0		0.214	0.9	1163%	80	120	0%	S

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15009776	0.05 ppb STD	ICPMS-6020B-C Cal2			1/31/2022 1:11:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0003263	-0.0003263		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.0000469	0.0000469		0.00005	0	0		0.001		94%	80	120	0%	
Arsenic	A	mg/L	0.00009585	0.00009585		0.00005	0	0		0.001		192%	80	120	0%	S
Barium	A	mg/L	0.00004631	0.00004631		0.00005	0	0		0.0003		93%	80	120	0%	
Beryllium	A	mg/L	0.00004008	0.00004008		0.00005	0	0		0.001		80%	80	120	0%	
Boron	A	mg/L	-1.211E-05	-1.211E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00004092	0.00004092		0.00005	0	0		0.001		82%	80	120	0%	
Calcium	A	mg/L	0.01375	0.01375		0.0125	0	0		1		110%	80	120	0%	
Cerium	A	mg/L	0.00005441	0.00005441		0.00005	0	0		0.001		109%	80	120	0%	

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15009776	0.05 ppb STD	ICPMS-6020B-C Cal2			1/31/2022 1:11:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.00006046	0.00006046		0.00005	0	0		0.001		121%	80	120	0%	S
Cobalt	A	mg/L	0.0000444	0.0000444		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00006463	0.00006463		0.00005	0	0		0.005		129%	80	120	0%	S
Iron	A	mg/L	0.001437	0.001437		0.00125	0	0		0.01		115%	80	120	0%	
Lanthanum	A	mg/L	0.00005199	0.00005199		0.00005	0	0		0.001		104%	80	120	0%	
Lead	A	mg/L	0.00002082	0.00002082		0.00005	0	0		0.001		42%	80	120	0%	S
Lithium	A	mg/L	0.0004646	0.0004646		0.000625	0	0		1		74%	80	120	0%	S
Magnesium	A	mg/L	0.01277	0.01277		0.0125	0	0		1		102%	80	120	0%	
Manganese	A	mg/L	0.0000479	0.0000479		0.00005	0	0		0.001		96%	80	120	0%	
Mercury	A	mg/L	1.366E-06	1.366E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00004446	0.00004446		0.00005	0	0		0.001		89%	80	120	0%	
Nickel	A	mg/L	0.00006123	0.00006123		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.0193	0.0193		0.0125	0	0		1		154%	80	120	0%	S
Selenium	A	mg/L	0.00007121	0.00007121		0.00005	0	0		0.005		142%	80	120	0%	S
Silicon	A	mg/L	-3.679E-05	-3.679E-05		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002256	0.00002256		0.00002	0	0		0.001		113%	80	120	0%	
Sodium	A	mg/L	0.01051	0.01051		0.0125	0	0		1		84%	80	120	0%	
Strontium	A	mg/L	0.00006714	0.00006714		0.00005	0	0		0.001		134%	80	120	0%	S
Thallium	A	mg/L	0.00004057	0.00004057		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.000023	0.000023		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0008445	0.0008445		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00006109	0.00006109		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00005008	0.00005008		0.00005	0	0		0.001		100%	80	120	0%	
Vanadium	A	mg/L	0.001502	0.001502		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.00005216	0.00005216		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001437	0.001437		0.00005	0	0		0.01	5	2874%	80	120	0%	S
Silicon as SiO2	C	mg/L	-7.873E-05	-7.873E-05		0.00428	0	0		0.214	0.9	-2%	80	120	0%	S

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15009777	0.10 ppb STD	ICPMS-6020B-C Cal3			1/31/2022 1:18:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0004746	0.0004746		0.0001	0	0		0.01		475%	80	120	0%	S
Antimony	A	mg/L	0.0001052	0.0001052		0.0001	0	0		0.001		105%	80	120	0%	
Arsenic	A	mg/L	0.000197	0.000197		0.0001	0	0		0.001		197%	80	120	0%	S

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15009777	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/31/2022 1:18:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.0001247	0.0001247		0.0001	0	0		0.0003		125%	80	120	0%	S
Beryllium	A	mg/L	0.0001147	0.0001147		0.0001	0	0		0.001		115%	80	120	0%	
Boron	A	mg/L	0.00007317	0.00007317		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.0001116	0.0001116		0.0001	0	0		0.001		112%	80	120	0%	
Calcium	A	mg/L	0.03096	0.03096		0.025	0	0		1		124%	80	120	0%	S
Cerium	A	mg/L	0.0001092	0.0001092		0.0001	0	0		0.001		109%	80	120	0%	
Chromium	A	mg/L	0.00009007	0.00009007		0.0001	0	0		0.001		90%	80	120	0%	
Cobalt	A	mg/L	0.000122	0.000122		0.0001	0	0		0.001		122%	80	120	0%	S
Copper	A	mg/L	0.000152	0.000152		0.0001	0	0		0.005		152%	80	120	0%	S
Iron	A	mg/L	0.003036	0.003036		0.0025	0	0		0.01		121%	80	120	0%	S
Lanthanum	A	mg/L	0.0001118	0.0001118		0.0001	0	0		0.001		112%	80	120	0%	
Lead	A	mg/L	0.0001138	0.0001138		0.0001	0	0		0.001		114%	80	120	0%	
Lithium	A	mg/L	0.001249	0.001249		0.00125	0	0		1		100%	80	120	0%	
Magnesium	A	mg/L	0.02849	0.02849		0.025	0	0		1		114%	80	120	0%	
Manganese	A	mg/L	0.0001232	0.0001232		0.0001	0	0		0.001		123%	80	120	0%	S
Mercury	A	mg/L	2.214E-06	2.214E-06		0.000002	0	0		0.001		111%	80	120	0%	
Molybdenum	A	mg/L	0.00009165	0.00009165		0.0001	0	0		0.001		92%	80	120	0%	
Nickel	A	mg/L	0.0001196	0.0001196		0.0001	0	0		0.005		120%	80	120	0%	
Potassium	A	mg/L	0.03171	0.03171		0.025	0	0		1		127%	80	120	0%	S
Selenium	A	mg/L	0.0001123	0.0001123		0.0001	0	0		0.005		112%	80	120	0%	
Silicon	A	mg/L	0.00007692	0.00007692		0.0004	0	0		0.1		19%	80	120	0%	S
Silver	A	mg/L	0.00004273	0.00004273		0.00004	0	0		0.001		107%	80	120	0%	
Sodium	A	mg/L	0.02991	0.02991		0.025	0	0		1		120%	80	120	0%	
Strontium	A	mg/L	0.0001216	0.0001216		0.0001	0	0		0.001		122%	80	120	0%	S
Thallium	A	mg/L	0.000129	0.000129		0.0001	0	0		0.001		129%	80	120	0%	S
Thorium	A	mg/L	0.00005276	0.00005276		0.0001	0	0		0.05		53%	80	120	0%	S
Tin	A	mg/L	0.0009734	0.0009734		0.0001	0	0		0.001		973%	80	120	0%	S
Titanium	A	mg/L	0.0002007	0.0002007		0.0001	0	0		0.001		201%	80	120	0%	S
Uranium	A	mg/L	0.0001055	0.0001055		0.0001	0	0		0.001		106%	80	120	0%	
Vanadium	A	mg/L	0.001357	0.001357		0.0001	0	0		0.005		1357%	80	120	0%	S
Zinc	A	mg/L	0.0001563	0.0001563		0.0001	0	0		0.01		156%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.003036	0.003036		0.0001	0	0		0.01	5	3036%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00016461	0.00016461		0.00856	0	0		0.214	0.9	2%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009778	0.5 ppb STD	ICPMS-6020B-C Cal4			1/31/2022 1:25:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001676	0.0001676		0.0005	0	0		0.01		34%	80	120	0%	S
Antimony	A	mg/L	0.0004728	0.0004728		0.0005	0	0		0.001		95%	80	120	0%	
Arsenic	A	mg/L	0.0006055	0.0006055		0.0005	0	0		0.001		121%	80	120	0%	S
Barium	A	mg/L	0.0005212	0.0005212		0.0005	0	0		0.0003		104%	80	120	0%	
Beryllium	A	mg/L	0.0005012	0.0005012		0.0005	0	0		0.001		100%	80	120	0%	
Boron	A	mg/L	0.0003383	0.0003383		0.0005	0	0		0.1		68%	80	120	0%	S
Cadmium	A	mg/L	0.0005156	0.0005156		0.0005	0	0		0.001		103%	80	120	0%	
Calcium	A	mg/L	0.1345	0.1345		0.125	0	0		1		108%	80	120	0%	
Cerium	A	mg/L	0.0005217	0.0005217		0.0005	0	0		0.001		104%	80	120	0%	
Chromium	A	mg/L	0.0004749	0.0004749		0.0005	0	0		0.001		95%	80	120	0%	
Cobalt	A	mg/L	0.0005419	0.0005419		0.0005	0	0		0.001		108%	80	120	0%	
Copper	A	mg/L	0.0005764	0.0005764		0.0005	0	0		0.005		115%	80	120	0%	
Iron	A	mg/L	0.01394	0.01394		0.0125	0	0		0.01		112%	80	120	0%	
Lanthanum	A	mg/L	0.0005099	0.0005099		0.0005	0	0		0.001		102%	80	120	0%	
Lead	A	mg/L	0.0004751	0.0004751		0.0005	0	0		0.001		95%	80	120	0%	
Lithium	A	mg/L	0.00588	0.00588		0.00625	0	0		1		94%	80	120	0%	
Magnesium	A	mg/L	0.1348	0.1348		0.125	0	0		1		108%	80	120	0%	
Manganese	A	mg/L	0.0005597	0.0005597		0.0005	0	0		0.001		112%	80	120	0%	
Mercury	A	mg/L	9.271E-06	9.271E-06		0.00001	0	0		0.001		93%	80	120	0%	
Molybdenum	A	mg/L	0.0004747	0.0004747		0.0005	0	0		0.001		95%	80	120	0%	
Nickel	A	mg/L	0.0005777	0.0005777		0.0005	0	0		0.005		116%	80	120	0%	
Potassium	A	mg/L	0.1287	0.1287		0.125	0	0		1		103%	80	120	0%	
Selenium	A	mg/L	0.0005518	0.0005518		0.0005	0	0		0.005		110%	80	120	0%	
Silicon	A	mg/L	0.001076	0.001076		0.002	0	0		0.1		54%	80	120	0%	S
Silver	A	mg/L	0.0002069	0.0002069		0.0002	0	0		0.001		103%	80	120	0%	
Sodium	A	mg/L	0.1315	0.1315		0.125	0	0		1		105%	80	120	0%	
Strontium	A	mg/L	0.0005283	0.0005283		0.0005	0	0		0.001		106%	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	0.0003063	0.0003063		0.0005	0	0		0.05		61%	80	120	0%	S
Tin	A	mg/L	0.001086	0.001086		0.0005	0	0		0.001		217%	80	120	0%	S
Titanium	A	mg/L	0.0005408	0.0005408		0.0005	0	0		0.001		108%	80	120	0%	
Uranium	A	mg/L	0.0004708	0.0004708		0.0005	0	0		0.001		94%	80	120	0%	
Vanadium	A	mg/L	0.001253	0.001253		0.0005	0	0		0.005		251%	80	120	0%	S
Zinc	A	mg/L	0.0006646	0.0006646		0.0005	0	0		0.01		133%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.01394	0.01394		0.0005	0	0		0.01	5	2788%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009778	0.5 ppb STD	ICPMS-6020B-C Cal4			1/31/2022 1:25:0	1	R373996			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	0.00230264	0.00230264		0.0428	0	0		0.214	0.9	5%	80	120	0%	S
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009779	1 ppb STD	ICPMS-6020B-C Cal5			1/31/2022 1:31:4	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000323	0.000323		0.001	0	0		0.01		32%	80	120	0%	S
Antimony	A	mg/L	0.0009784	0.0009784		0.001	0	0		0.001		98%	80	120	0%	
Arsenic	A	mg/L	0.001227	0.001227		0.001	0	0		0.001		123%	80	120	0%	S
Barium	A	mg/L	0.0009954	0.0009954		0.001	0	0		0.0003		100%	80	120	0%	
Beryllium	A	mg/L	0.0009871	0.0009871		0.001	0	0		0.001		99%	80	120	0%	
Boron	A	mg/L	0.0007104	0.0007104		0.001	0	0		0.1		71%	80	120	0%	S
Cadmium	A	mg/L	0.001033	0.001033		0.001	0	0		0.001		103%	80	120	0%	
Calcium	A	mg/L	0.2805	0.2805		0.25	0	0		1		112%	80	120	0%	
Cerium	A	mg/L	0.001066	0.001066		0.001	0	0		0.001		107%	80	120	0%	
Chromium	A	mg/L	0.001128	0.001128		0.001	0	0		0.001		113%	80	120	0%	
Cobalt	A	mg/L	0.001086	0.001086		0.001	0	0		0.001		109%	80	120	0%	
Copper	A	mg/L	0.001219	0.001219		0.001	0	0		0.005		122%	80	120	0%	S
Iron	A	mg/L	0.02861	0.02861		0.025	0	0		0.01		114%	80	120	0%	
Lanthanum	A	mg/L	0.001077	0.001077		0.001	0	0		0.001		108%	80	120	0%	
Lead	A	mg/L	0.0009692	0.0009692		0.001	0	0		0.001		97%	80	120	0%	
Lithium	A	mg/L	0.01183	0.01183		0.0125	0	0		1		95%	80	120	0%	
Magnesium	A	mg/L	0.2796	0.2796		0.25	0	0		1		112%	80	120	0%	
Manganese	A	mg/L	0.001136	0.001136		0.001	0	0		0.001		114%	80	120	0%	
Mercury	A	mg/L	0.00001973	0.00001973		0.00002	0	0		0.001		99%	80	120	0%	
Molybdenum	A	mg/L	0.000966	0.000966		0.001	0	0		0.001		97%	80	120	0%	
Nickel	A	mg/L	0.001144	0.001144		0.001	0	0		0.005		114%	80	120	0%	
Potassium	A	mg/L	0.2774	0.2774		0.25	0	0		1		111%	80	120	0%	
Selenium	A	mg/L	0.001074	0.001074		0.001	0	0		0.005		107%	80	120	0%	
Silicon	A	mg/L	0.00273	0.00273		0.004	0	0		0.1		68%	80	120	0%	S
Silver	A	mg/L	0.0004012	0.0004012		0.0004	0	0		0.001		100%	80	120	0%	
Sodium	A	mg/L	0.2779	0.2779		0.25	0	0		1		111%	80	120	0%	
Strontium	A	mg/L	0.001199	0.001199		0.001	0	0		0.001		120%	80	120	0%	
Thallium	A	mg/L	0.0009836	0.0009836		0.001	0	0		0.001		98%	80	120	0%	
Thorium	A	mg/L	0.0007297	0.0007297		0.001	0	0		0.05		73%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009779	1 ppb STD	ICPMS-6020B-C Cal5			1/31/2022 1:31:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.001841	0.001841		0.001	0	0		0.001		184%	80	120	0%	S
Titanium	A	mg/L	0.00106	0.00106		0.001	0	0		0.001		106%	80	120	0%	
Uranium	A	mg/L	0.0009712	0.0009712		0.001	0	0		0.001		97%	80	120	0%	
Vanadium	A	mg/L	0.001743	0.001743		0.001	0	0		0.005		174%	80	120	0%	S
Zinc	A	mg/L	0.001029	0.001029		0.001	0	0		0.01		103%	80	120	0%	
Iron, Ferrous	C	mg/L	0.02861	0.02861		0.001	0	0		0.01	5	2861%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.0058422	0.0058422		0.0856	0	0		0.214	0.9	7%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009780	10 ppb STD	ICPMS-6020B-C Cal6			1/31/2022 1:38:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.009154	0.009154		0.01	0	0		0.01		92%	90	110	0%	
Antimony	A	mg/L	0.009433	0.009433		0.01	0	0		0.001		94%	90	110	0%	
Arsenic	A	mg/L	0.01085	0.01085		0.01	0	0		0.001		108%	90	110	0%	
Barium	A	mg/L	0.01021	0.01021		0.01	0	0		0.0003		102%	90	110	0%	
Beryllium	A	mg/L	0.009584	0.009584		0.01	0	0		0.001		96%	90	110	0%	
Boron	A	mg/L	0.009274	0.009274		0.01	0	0		0.1		93%	90	110	0%	
Cadmium	A	mg/L	0.009984	0.009984		0.01	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	2.652	2.652		2.5	0	0		1		106%	90	110	0%	
Cerium	A	mg/L	0.01041	0.01041		0.01	0	0		0.001		104%	90	110	0%	
Chromium	A	mg/L	0.01079	0.01079		0.01	0	0		0.001		108%	90	110	0%	
Cobalt	A	mg/L	0.01073	0.01073		0.01	0	0		0.001		107%	90	110	0%	
Copper	A	mg/L	0.01142	0.01142		0.01	0	0		0.005		114%	90	110	0%	S
Iron	A	mg/L	0.2758	0.2758		0.25	0	0		0.01		110%	90	110	0%	
Lanthanum	A	mg/L	0.01031	0.01031		0.01	0	0		0.001		103%	90	110	0%	
Lead	A	mg/L	0.009661	0.009661		0.01	0	0		0.001		97%	90	110	0%	
Lithium	A	mg/L	0.1227	0.1227		0.125	0	0		1		98%	90	110	0%	
Magnesium	A	mg/L	2.652	2.652		2.5	0	0		1		106%	90	110	0%	
Manganese	A	mg/L	0.01118	0.01118		0.01	0	0		0.001		112%	90	110	0%	S
Mercury	A	mg/L	0.0001939	0.0001939		0.0002	0	0		0.001		97%	90	110	0%	
Molybdenum	A	mg/L	0.009591	0.009591		0.01	0	0		0.001		96%	90	110	0%	
Nickel	A	mg/L	0.01109	0.01109		0.01	0	0		0.005		111%	90	110	0%	S
Potassium	A	mg/L	2.722	2.722		2.5	0	0		1		109%	90	110	0%	
Selenium	A	mg/L	0.01042	0.01042		0.01	0	0		0.005		104%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009780	10 ppb STD	ICPMS-6020B-C Cal6			1/31/2022 1:38:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.03811	0.03811		0.04	0	0		0.1		95%	90	110	0%	
Silver	A	mg/L	0.003907	0.003907		0.004	0	0		0.001		98%	90	110	0%	
Sodium	A	mg/L	2.668	2.668		2.5	0	0		1		107%	90	110	0%	
Strontium	A	mg/L	0.01091	0.01091		0.01	0	0		0.001		109%	90	110	0%	
Thallium	A	mg/L	0.009705	0.009705		0.01	0	0		0.001		97%	90	110	0%	
Thorium	A	mg/L	0.009127	0.009127		0.01	0	0		0.05		91%	90	110	0%	
Tin	A	mg/L	0.01077	0.01077		0.01	0	0		0.001		108%	90	110	0%	
Titanium	A	mg/L	0.0105	0.0105		0.01	0	0		0.001		105%	90	110	0%	
Uranium	A	mg/L	0.009577	0.009577		0.01	0	0		0.001		96%	90	110	0%	
Vanadium	A	mg/L	0.009305	0.009305		0.01	0	0		0.005		93%	90	110	0%	
Zinc	A	mg/L	0.01087	0.01087		0.01	0	0		0.01		109%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2758	0.2758		0.01	0	0		0.01	5	2758%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.0815554	0.0815554		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					
15009781	50 ppb STD	ICPMS-6020B-C Cal7			1/31/2022 1:45:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05375	0.05375		0.05	0	0		0.01		107%	90	110	0%	
Antimony	A	mg/L	0.05218	0.05218		0.05	0	0		0.001		104%	90	110	0%	
Arsenic	A	mg/L	0.05498	0.05498		0.05	0	0		0.001		110%	90	110	0%	
Barium	A	mg/L	0.05527	0.05527		0.05	0	0		0.0003		111%	90	110	0%	S
Beryllium	A	mg/L	0.05274	0.05274		0.05	0	0		0.001		105%	90	110	0%	
Boron	A	mg/L	0.05228	0.05228		0.05	0	0		0.1		105%	90	110	0%	
Cadmium	A	mg/L	0.05339	0.05339		0.05	0	0		0.001		107%	90	110	0%	
Calcium	A	mg/L	12.36	12.36		12.5	0	0		1		99%	90	110	0%	
Cerium	A	mg/L	0.049	0.049		0.05	0	0		0.001		98%	90	110	0%	
Chromium	A	mg/L	0.05495	0.05495		0.05	0	0		0.001		110%	90	110	0%	
Cobalt	A	mg/L	0.05488	0.05488		0.05	0	0		0.001		110%	90	110	0%	
Copper	A	mg/L	0.05729	0.05729		0.05	0	0		0.005		115%	90	110	0%	S
Iron	A	mg/L	1.29	1.29		1.25	0	0		0.01		103%	90	110	0%	
Lanthanum	A	mg/L	0.04972	0.04972		0.05	0	0		0.001		99%	90	110	0%	
Lead	A	mg/L	0.05288	0.05288		0.05	0	0		0.001		106%	90	110	0%	
Lithium	A	mg/L	0.5955	0.5955		0.625	0	0		1		95%	90	110	0%	
Magnesium	A	mg/L	12.61	12.61		12.5	0	0		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					
15009781	50 ppb STD	ICPMS-6020B-C Cal7			1/31/2022 1:45:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.05622	0.05622		0.05	0	0		0.001		112%	90	110	0%	S
Mercury	A	mg/L	0.0009705	0.0009705		0.001	0	0		0.001		97%	90	110	0%	
Molybdenum	A	mg/L	0.0513	0.0513		0.05	0	0		0.001		103%	90	110	0%	
Nickel	A	mg/L	0.05586	0.05586		0.05	0	0		0.005		112%	90	110	0%	S
Potassium	A	mg/L	12.43	12.43		12.5	0	0		1		99%	90	110	0%	
Selenium	A	mg/L	0.05442	0.05442		0.05	0	0		0.005		109%	90	110	0%	
Silicon	A	mg/L	0.215	0.215		0.2	0	0		0.1		107%	90	110	0%	
Silver	A	mg/L	0.02048	0.02048		0.02	0	0		0.001		102%	90	110	0%	
Sodium	A	mg/L	12.5	12.5		12.5	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.0563	0.0563		0.05	0	0		0.001		113%	90	110	0%	S
Thallium	A	mg/L	0.05253	0.05253		0.05	0	0		0.001		105%	90	110	0%	
Thorium	A	mg/L	0.05184	0.05184		0.05	0	0		0.05		104%	90	110	0%	
Tin	A	mg/L	0.05204	0.05204		0.05	0	0		0.001		104%	90	110	0%	
Titanium	A	mg/L	0.05329	0.05329		0.05	0	0		0.001		107%	90	110	0%	
Uranium	A	mg/L	0.05208	0.05208		0.05	0	0		0.001		104%	90	110	0%	
Vanadium	A	mg/L	0.05012	0.05012		0.05	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.05572	0.05572		0.05	0	0		0.01		111%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.29	1.29		0.05	0	0		0.01	5	2580%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.4601	0.4601		4.28	0	0		0.214	0.9	11%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009782	100 ppb STD	ICPMS-6020B-C Cal8			1/31/2022 1:51:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09951	0.09951		0.1	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.09897	0.09897		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.1011	0.1011		0.1	0	0		0.001		101%	90	110	0%	
Barium	A	mg/L	0.1059	0.1059		0.1	0	0		0.0003		106%	90	110	0%	
Beryllium	A	mg/L	0.1008	0.1008		0.1	0	0		0.001		101%	90	110	0%	
Boron	A	mg/L	0.1021	0.1021		0.1	0	0		0.1		102%	90	110	0%	
Cadmium	A	mg/L	0.1019	0.1019		0.1	0	0		0.001		102%	90	110	0%	
Calcium	A	mg/L	24.57	24.57		25	0	0		1		98%	90	110	0%	
Cerium	A	mg/L	0.1005	0.1005		0.1	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.1011	0.1011		0.1	0	0		0.001		101%	90	110	0%	
Cobalt	A	mg/L	0.09576	0.09576		0.1	0	0		0.001		96%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009782	100 ppb STD	ICPMS-6020B-C Cal8			1/31/2022 1:51:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.1035	0.1035		0.1	0	0		0.005		103%	90	110	0%	
Iron	A	mg/L	2.551	2.551		2.5	0	0		0.01		102%	90	110	0%	
Lanthanum	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.09943	0.09943		0.1	0	0		0.001		99%	90	110	0%	
Lithium	A	mg/L	1.236	1.236		1.25	0	0		1		99%	90	110	0%	
Magnesium	A	mg/L	24.8	24.8		25	0	0		1		99%	90	110	0%	
Manganese	A	mg/L	0.1032	0.1032		0.1	0	0		0.001		103%	90	110	0%	
Mercury	A	mg/L	0.002015	0.002015		0.002	0	0		0.001		101%	90	110	0%	
Molybdenum	A	mg/L	0.09939	0.09939		0.1	0	0		0.001		99%	90	110	0%	
Nickel	A	mg/L	0.1008	0.1008		0.1	0	0		0.005		101%	90	110	0%	
Potassium	A	mg/L	24.84	24.84		25	0	0		1		99%	90	110	0%	
Selenium	A	mg/L	0.1001	0.1001		0.1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.3927	0.3927		0.4	0	0		0.1		98%	90	110	0%	
Silver	A	mg/L	0.03977	0.03977		0.04	0	0		0.001		99%	90	110	0%	
Sodium	A	mg/L	24.8	24.8		25	0	0		1		99%	90	110	0%	
Strontium	A	mg/L	0.1026	0.1026		0.1	0	0		0.001		103%	90	110	0%	
Thallium	A	mg/L	0.09751	0.09751		0.1	0	0		0.001		98%	90	110	0%	
Thorium	A	mg/L	0.0977	0.0977		0.1	0	0		0.05		98%	90	110	0%	
Tin	A	mg/L	0.09889	0.09889		0.1	0	0		0.001		99%	90	110	0%	
Titanium	A	mg/L	0.0983	0.0983		0.1	0	0		0.001		98%	90	110	0%	
Uranium	A	mg/L	0.0992	0.0992		0.1	0	0		0.001		99%	90	110	0%	
Vanadium	A	mg/L	0.09521	0.09521		0.1	0	0		0.005		95%	90	110	0%	
Zinc	A	mg/L	0.1027	0.1027		0.1	0	0		0.01		103%	90	110	0%	
Iron, Ferrous	C	mg/L	2.551	2.551		0.1	0	0		0.01	5	2551%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.840378	0.840378		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					
15009783	1000 ppb STD	ICPMS-6020B-C Cal10			1/31/2022 1:58:1	1	R373996		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	0.0001858	0.0001858		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	0.9991	0.9991		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.9998	0.9998		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					
15009783	1000 ppb STD	ICPMS-6020B-C	Cal10		1/31/2022 1:58:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
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	50.24	50.24		50	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.00002117	0.00002117		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	1	1		1	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.9993	0.9993		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.023	6.023		6	0	0		0.01		100%	90	110	0%	
Lanthanum	A	mg/L	6.662E-06	6.662E-06		0	0	0		0.001		0%			0%	
Lead	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	2.515	2.515		2.5	0	0		1		101%	90	110	0%	
Magnesium	A	mg/L	50.07	50.07		50	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.9994	0.9994		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	0.0000145	0.0000145		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0001244	0.0001244		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9996	0.9996		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.08	50.08		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	-7.555E-05	-7.555E-05		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.3425	0.3425		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	50.09	50.09		50	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.9994	0.9994		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	0.000886	0.000886		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.007036	0.007036		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	1	1		1	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.9994	0.9994		1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	6.023	6.023		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	-0.0001617	-0.0001617		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					
15009784	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/31/2022 2:04:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.000854	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Arsenic	A	mg/L	0.000476	0.000476		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.00002949	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00008176	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002058	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.755E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0000803	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00002422	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.00008663	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	8.454E-07	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.00006914	0.00006914		0	0	0	0.000056	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.00005743	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00001155	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00003321	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-1.937E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0002415	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.001029	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.0001264	0.0001264		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	0.00003452	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002808	0.0002808		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0006745	0.0006745		0	0	0	0.00061	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.0002284	0.0002284		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.00005674	0.00005674		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	0.01439	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0001499	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0001499	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.002888	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.7879	0.7879		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Sodium	B	mg/L	0.004652	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0.001223	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009785	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 2:11:4	1	R373996		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					
15009785	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 2:11:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	0.0000503	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	6.787E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-1.185E-05	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001911	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	2.056E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0000116	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-2.966E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.00003264	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-1.599E-07	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	7.357E-07	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-5.173E-06	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	3.407E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	2.415E-06	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-4.501E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00007824	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002094	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	1.277E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.00000957	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009349	0.00009349		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001055	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-3.28E-06	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	9.925E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002854	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-0.0004112	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0004112	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.0002754	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.01911	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.007817	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	-5.141E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009786	QCS	ICPMS-6020-W-	ICV		1/31/2022 2:17:5	1	R373996		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					
15009786	QCS	ICPMS-6020-W- ICV			1/31/2022 2:17:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2579	0.2579		0.25	0	0	0.00086	0.001	1	103%	90	110	0%	
Antimony	A	mg/L	0.04707	0.04707		0.05	0	0	0.00044	0.001	0.1	94%	90	110	0%	
Arsenic	A	mg/L	0.05081	0.05081		0.05	0	0	0.00019	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05472	0.05472		0.05	0	0	0.000042	0.001	1	109%	90	110	0%	
Beryllium	A	mg/L	0.02467	0.02467		0.025	0	0	0.00012	0.001	1	99%	90	110	0%	
Boron	A	mg/L	0.05771	0.05771		0.05	0	0	0.00561	0.00561	1	115%	90	110	0%	S
Cadmium	A	mg/L	0.02511	0.02511		0.025	0	0	0.000025	0.001	1	100%	90	110	0%	
Calcium	A	mg/L	2.624	2.624		2.5	0	0	0.02092	0.02092	50	105%	90	110	0%	
Cerium	A	mg/L	0.04967	0.04967		0.05	0	0	0.000012	0.001	0.1	99%	90	110	0%	
Chromium	A	mg/L	0.0514	0.0514		0.05	0	0	0.00018	0.001	1	103%	90	110	0%	
Cobalt	A	mg/L	0.05125	0.05125		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Copper	A	mg/L	0.05391	0.05391		0.05	0	0	0.00027	0.001	1	108%	90	110	0%	
Iron	A	mg/L	0.2557	0.2557		0.25	0	0	0.00119	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.0495	0.0495		0.05	0	0	0.000011	0.001	0.1	99%	90	110	0%	
Lead	A	mg/L	0.04922	0.04922		0.05	0	0	0.000056	0.001	1	98%	90	110	0%	
Magnesium	A	mg/L	2.565	2.565		2.5	0	0	0.00564	0.00564	50	103%	90	110	0%	
Manganese	A	mg/L	0.265	0.265		0.25	0	0	0.000095	0.001	1	106%	90	110	0%	
Mercury	A	mg/L	0.0009424	0.0009424		0.001	0	0	0.00016	0.001	0.002	94%	90	110	0%	
Molybdenum	A	mg/L	0.04814	0.04814		0.05	0	0	0.00005	0.001	0.1	96%	90	110	0%	
Nickel	A	mg/L	0.05191	0.05191		0.05	0	0	0.00063	0.001	1	104%	90	110	0%	
Potassium	A	mg/L	2.655	2.655		2.5	0	0	0.08139	0.08139	50	106%	90	110	0%	
Selenium	A	mg/L	0.05085	0.05085		0.05	0	0	0.00033	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.4945	0.4945		0.5	0	0	0.01223	0.1	0.4	99%	90	110	0%	
Silver	A	mg/L	0.02454	0.02454		0.025	0	0	0.00002	0.001	0.04	98%	90	110	0%	
Sodium	A	mg/L	2.578	2.578		2.5	0	0	0.02171	0.02171	50	103%	90	110	0%	
Strontium	A	mg/L	0.05277	0.05277		0.05	0	0	0.00014	0.001	1	106%	90	110	0%	
Thallium	A	mg/L	0.05005	0.05005		0.05	0	0	0.000041	0.001	1	100%	90	110	0%	
Thorium	A	mg/L	0.04665	0.04665		0.05	0	0	0.00061	0.001	1	93%	90	110	0%	
Tin	A	mg/L	0.04729	0.04729		0.05	0	0	0.00132	0.00132	0.1	95%	90	110	0%	
Titanium	A	mg/L	0.04938	0.04938		0.05	0	0	0.000094	0.001	1	99%	90	110	0%	
Uranium	A	mg/L	0.05117	0.05117		0.05	0	0	0.000052	0.0003	1	102%	90	110	0%	
Vanadium	A	mg/L	0.04465	0.04465		0.05	0	0	0.0013	0.0013	1	89%	90	110	0%	S
Zinc	A	mg/L	0.05561	0.05561		0.05	0	0	0.00273	0.00273	1	111%	90	110	0%	S
Iron, Ferrous	C	mg/L	0.2557	0.2557		0	0	0	0.00119	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					
15009787	CCV	ICPMS-6020-W-	CCV		1/31/2022 2:24:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05357	0.05357		0.05	0	0	0.00086	0.001	1	107%	90	110	0%	
Antimony	A	mg/L	0.05338	0.05338		0.05	0	0	0.00042	0.001	0.1	107%	90	110	0%	
Arsenic	A	mg/L	0.05505	0.05505		0.05	0	0	0.00019	0.001	1	110%	90	110	0%	
Barium	A	mg/L	0.05616	0.05616		0.05	0	0	0.000042	0.001	1	112%	90	110	0%	S
Beryllium	A	mg/L	0.05362	0.05362		0.05	0	0	0.00012	0.001	1	107%	90	110	0%	
Boron	A	mg/L	0.05667	0.05667		0.05	0	0	0.00561	0.00561	1	113%	90	110	0%	S
Cadmium	A	mg/L	0.05451	0.05451		0.05	0	0	0.000025	0.001	1	109%	90	110	0%	
Calcium	A	mg/L	12.6	12.6		12.5	0	0	0.02092	0.02092	50	101%	90	110	0%	
Cerium	A	mg/L	0.04863	0.04863		0.05	0	0	0.000012	0.001	0.1	97%	90	110	0%	
Chromium	A	mg/L	0.05516	0.05516		0.05	0	0	0.00018	0.001	1	110%	90	110	0%	
Cobalt	A	mg/L	0.05426	0.05426		0.05	0	0	0.000042	0.001	1	109%	90	110	0%	
Copper	A	mg/L	0.05636	0.05636		0.05	0	0	0.00027	0.001	1	113%	90	110	0%	S
Iron	A	mg/L	1.272	1.272		1.3	0	0	0.00119	0.00119	5	98%	90	110	0%	
Lanthanum	A	mg/L	0.04907	0.04907		0.05	0	0	0.000011	0.001	0.1	98%	90	110	0%	
Lead	A	mg/L	0.05359	0.05359		0.05	0	0	0.000056	0.001	1	107%	90	110	0%	
Magnesium	A	mg/L	12.49	12.49		12.5	0	0	0.00564	0.00564	50	100%	90	110	0%	
Manganese	A	mg/L	0.0546	0.0546		0.05	0	0	0.0001	0.001	1	109%	90	110	0%	
Mercury	A	mg/L	0.001017	0.001017		0.001	0	0	0.00016	0.001	0.002	102%	90	110	0%	
Molybdenum	A	mg/L	0.05146	0.05146		0.05	0	0	0.00005	0.001	0.1	103%	90	110	0%	
Nickel	A	mg/L	0.05487	0.05487		0.05	0	0	0.00063	0.001	1	110%	90	110	0%	
Potassium	A	mg/L	12.63	12.63		12.5	0	0	0.08139	0.08139	50	101%	90	110	0%	
Selenium	A	mg/L	0.05421	0.05421		0.05	0	0	0.00033	0.001	1	108%	90	110	0%	
Silicon	A	mg/L	0.2111	0.2111		0.2	0	0	0.01223	0.1	0.4	106%	90	110	0%	
Silver	A	mg/L	0.02101	0.02101		0.02	0	0	0.00002	0.001	0.04	105%	90	110	0%	
Sodium	A	mg/L	12.6	12.6		12.5	0	0	0.02171	0.02171	50	101%	90	110	0%	
Strontium	A	mg/L	0.05622	0.05622		0.05	0	0	0.00014	0.001	1	112%	90	110	0%	S
Thallium	A	mg/L	0.0533	0.0533		0.05	0	0	0.000041	0.001	1	107%	90	110	0%	
Thorium	A	mg/L	0.05181	0.05181		0.05	0	0	0.00061	0.001	1	104%	90	110	0%	
Tin	A	mg/L	0.05024	0.05024		0.05	0	0	0.00132	0.00132	0.1	100%	90	110	0%	
Titanium	A	mg/L	0.05352	0.05352		0.05	0	0	0.000094	0.001	1	107%	90	110	0%	
Uranium	A	mg/L	0.0523	0.0523		0.05	0	0	0.000052	0.0003	1	105%	90	110	0%	
Vanadium	A	mg/L	0.04745	0.04745		0.05	0	0	0.0013	0.0013	1	95%	90	110	0%	
Zinc	A	mg/L	0.0558	0.0558		0.05	0	0	0.00273	0.00273	1	112%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.272	1.272		0	0	0	0.00119	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					
15009788	CCB	ICPMS-6020-W-	CCB		1/31/2022 2:30:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.001765	-0.001765		0	0	0	0.00086	0.001	1	0%				0%
Antimony	A	mg/L	0.00007334	0.00007334		0	0	0	0.00042	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0001071	-0.0001071		0	0	0	0.00019	0.001	1	0%				0%
Barium	A	mg/L	-5.76E-07	-5.76E-07		0	0	0	0.000042	0.001	1	0%				0%
Beryllium	A	mg/L	-0.000051	-0.000051		0	0	0	0.00012	0.001	1	0%				0%
Boron	A	mg/L	0.002514	0.002514		0	0	0	0.00561	0.00561	1	0%				0%
Cadmium	A	mg/L	7.706E-06	7.706E-06		0	0	0	0.000025	0.001	1	0%				0%
Calcium	A	mg/L	0.001379	0.001379		0	0	0	0.02092	0.02092	50	0%				0%
Cerium	A	mg/L	8.554E-07	8.554E-07		0	0	0	0.000012	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	-0.000035	-0.000035		0	0	0	0.00018	0.001	1	0%				0%
Cobalt	A	mg/L	-7.384E-06	-7.384E-06		0	0	0	0.000042	0.001	1	0%				0%
Copper	A	mg/L	0.00001619	0.00001619		0	0	0	0.00027	0.001	1	0%				0%
Iron	A	mg/L	-0.0005184	-0.0005184		0	0	0	0.00119	0.00119	5	0%				0%
Lanthanum	A	mg/L	-3.141E-07	-3.141E-07		0	0	0	0.000011	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-3.851E-06	-3.851E-06		0	0	0	0.000056	0.001	1	0%				0%
Magnesium	A	mg/L	-0.00288	-0.00288		0	0	0	0.00564	0.00564	50	0%				0%
Manganese	A	mg/L	-1.437E-05	-1.437E-05		0	0	0	0.000095	0.001	1	0%				0%
Mercury	A	mg/L	9.551E-06	9.551E-06		0	0	0	0.00016	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00002997	0.00002997		0	0	0	0.00005	0.001	0.1	0%				0%
Nickel	A	mg/L	-5.619E-05	-5.619E-05		0	0	0	0.00063	0.001	1	0%				0%
Potassium	A	mg/L	-0.01168	-0.01168		0	0	0	0.08139	0.08139	50	0%				0%
Selenium	A	mg/L	0.00004507	0.00004507		0	0	0	0.00033	0.001	1	0%				0%
Silicon	A	mg/L	-0.002433	-0.002433		0	0	0	0.01223	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	2.626E-06	2.626E-06		0	0	0	0.00002	0.001	0.04	0%				0%
Sodium	A	mg/L	-0.00414	-0.00414		0	0	0	0.02171	0.02171	50	0%				0%
Strontium	A	mg/L	4.072E-06	4.072E-06		0	0	0	0.00014	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.0001125	0.0001125		0	0	0	0.000041	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00009472	0.00009472		0	0	0	0.00061	0.001	1	0%	0	0		0%
Tin	A	mg/L	-2.595E-05	-2.595E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	-0.0000272	-0.0000272		0	0	0	0.000094	0.001	1	0%	0	0		0%
Uranium	A	mg/L	5.646E-06	5.646E-06		0	0	0	0.000052	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	-0.006847	-0.006847		0	0	0	0.0013	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	-6.447E-05	-6.447E-05		0	0	0	0.00273	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	-0.0005184	-0.0005184		0	0	0	0.00119	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					
15009789	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 2:36:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	-0.0001149	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	4.736E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	5.961E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-3.259E-05	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-6.09E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-7.832E-07	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-1.717E-05	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	7.119E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	6.171E-06	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-4.567E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00001923	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002603	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	5.646E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00003608	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00003901	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-5.815E-05	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00000231	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.00148	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-0.0005615	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0005615	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.001988	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	-0.02719	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.007378	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	-0.0000559	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009790	LRB	ICPMS-6020-W-	MBLK		1/31/2022 2:42:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.001751	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00001931	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-9.805E-05	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.0000186	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-6.839E-05	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Boron	A	mg/L	0.001233	0		0	0	0	0.00561	0.00561	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					
15009790	LRB	ICPMS-6020-W-	MBLK		1/31/2022 2:42:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00001704	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	0.004736	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	
Cerium	A	mg/L	5.058E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-4.899E-06	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.0000059	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.00002513	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Iron	A	mg/L	-0.0005172	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Lanthanum	A	mg/L	-5.025E-07	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-1.487E-05	0		0	0	0	0.000056	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	-0.001587	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	
Manganese	A	mg/L	-6.674E-06	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	2.385E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	6.652E-06	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-5.317E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Potassium	A	mg/L	-0.02495	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	
Selenium	A	mg/L	0.00001131	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002452	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.189E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	-0.0009211	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	
Strontium	A	mg/L	0.00002356	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00002142	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002585	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-7.547E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-3.195E-05	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.346E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.006499	0		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.0001207	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0005172	0		0	0	0	0.00119	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					
15009791	LFB	ICPMS-6020-W-	LFB		1/31/2022 2:49:0	1.03	R373996		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					
15009791	LFB	ICPMS-6020-W-	LFB		1/31/2022 2:49:0	1.03	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04328	0.0445784		0.05	0	0	0.0008858	0.001	1	89%	85	115	0%	
Antimony	A	mg/L	0.04584	0.0472152		0.05	0	0	0.0004326	0.001	0.1	94%	85	115	0%	
Arsenic	A	mg/L	0.04959	0.0510777		0.05	0	0	0.0001957	0.001	1	102%	85	115	0%	
Barium	A	mg/L	0.04944	0.0509232		0.05	0	0	4.326E-05	0.001	1	102%	85	115	0%	
Beryllium	A	mg/L	0.03881	0.0399743		0.05	0	0	0.0001236	0.001	1	80%	85	115	0%	S
Boron	A	mg/L	0.04184	0.0430952		0.05	0	0	0.0057783	0.0057783	1	86%	85	115	0%	
Cadmium	A	mg/L	0.04644	0.0478332		0.05	0	0	2.575E-05	0.001	1	96%	85	115	0%	
Calcium	A	mg/L	46.94	48.3482		50	0	0	0.0215476	0.0215476	50	97%	85	115	0%	
Cerium	A	mg/L	0.04921	0.0506863		0.05	0	0	1.236E-05	0.001	0.1	101%	85	115	0%	
Chromium	A	mg/L	0.04795	0.0493885		0.05	0	0	0.0001854	0.001	1	99%	85	115	0%	
Cobalt	A	mg/L	0.04612	0.0475036		0.05	0	0	4.326E-05	0.001	1	95%	85	115	0%	
Copper	A	mg/L	0.04945	0.0509335		0.05	0	0	0.0002781	0.001	1	102%	85	115	0%	
Iron	A	mg/L	4.743	4.88529		5.05	0	0	0.0012257	0.0012257	5	97%	85	115	0%	
Lanthanum	A	mg/L	3.331E-06	0		0.05	0	0	1.133E-05	0.001	0.1	0%	85	115	0%	S
Lead	A	mg/L	0.04634	0.0477302		0.05	0	0	5.768E-05	0.001	1	95%	88	115	0%	
Magnesium	A	mg/L	48.09	49.5327		50	0	0	0.0058092	0.0058092	50	99%	85	115	0%	
Manganese	A	mg/L	0.04945	0.0509335		0.05	0	0	9.785E-05	0.001	1	102%	85	115	0%	
Mercury	A	mg/L	0.0009555	0.00098417		0.001	0	0	0.0001648	0.001	0.002	98%	85	115	0%	
Molybdenum	A	mg/L	0.04633	0.0477199		0.05	0	0	0.0000515	0.001	0.1	95%	85	115	0%	
Nickel	A	mg/L	0.04821	0.0496563		0.05	0	0	0.0006489	0.001	1	99%	85	115	0%	
Potassium	A	mg/L	48.84	50.3052		50	0	0	0.0838317	0.0838317	50	101%	85	115	0%	
Selenium	A	mg/L	0.0475	0.048925		0.05	0	0	0.0003399	0.001	1	98%	85	115	0%	
Silicon	A	mg/L	0.1839	0.189417		0.2	0	0	0.0125969	0.1	0.4	95%	85	115	0%	
Silver	A	mg/L	0.01883	0.0193949		0.02	0	0	0.0000206	0.001	0.04	97%	85	115	0%	
Sodium	A	mg/L	46.67	48.0701		50	0	0	0.0223613	0.0223613	50	96%	85	115	0%	
Strontium	A	mg/L	0.05098	0.0525094		0.05	0	0	0.0001442	0.001	1	105%	85	115	0%	
Thallium	A	mg/L	0.0463	0.047689		0.05	0	0	4.223E-05	0.001	1	95%	85	115	0%	
Thorium	A	mg/L	0.04644	0.0478332		0.05	0	0	0.0006283	0.001	1	96%	85	115	0%	
Tin	A	mg/L	0.04535	0.0467105		0.05	0	0	0.0013596	0.0013596	0.1	93%	85	115	0%	
Titanium	A	mg/L	0.04942	0.0509026		0.05	0	0	9.682E-05	0.001	1	102%	85	115	0%	
Uranium	A	mg/L	0.04647	0.0478641		0.05	0	0	5.356E-05	0.0003	1	96%	85	115	0%	
Vanadium	A	mg/L	0.04255	0.0438265		0.05	0	0	0.001339	0.001339	1	88%	85	115	0%	
Zinc	A	mg/L	0.04986	0.0513558		0.05	0	0	0.0028119	0.0028119	1	103%	85	115	0%	
Iron, Ferrous	C	mg/L	4.743	4.88529		0	0	0	0.0012257	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					
15009792	ICSA	ICPMS-6020-W-	ICSA		1/31/2022 2:55:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	38.02	38.02		40	0	0	0.00086	0.001	1	95%	80	120	0%	
Antimony	A	mg/L	0.000179	0.000179		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0003014	-0.0003014		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	0.00008857	0.00008857		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-7.939E-05	-7.939E-05		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001669	0.001669		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00005691	0.00005691		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	119.7	119.7		120	0	0	0.02092	0.02092	50	100%	80	120	0%	
Cerium	A	mg/L	2.893E-06	2.893E-06		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.0008694	0.0008694		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	0.0003391	0.0003391		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00005612	0.00005612		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	100.7	100.7		100	0	0	0.00119	0.00119	5	101%	80	120	0%	
Lanthanum	A	mg/L	0.00000797	0.00000797		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	-6.207E-05	-6.207E-05		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	40.45	40.45		50	0	0	0.00564	0.00564	50	81%			0%	
Manganese	A	mg/L	0.0002155	0.0002155		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00000945	0.00000945		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.7562	0.7562		0.8	0	0	0.00005	0.001	0.1	95%	80	120	0%	
Nickel	A	mg/L	0.000163	0.000163		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	39.8	39.8		50	0	0	0.08139	0.08139	50	80%			0%	
Selenium	A	mg/L	0.0004742	0.0004742		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.0003723	-0.0003723		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	5.137E-06	5.137E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	98.74	98.74		100	0	0	0.02171	0.02171	50	99%			0%	
Strontium	A	mg/L	0.001278	0.001278		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	0.00003407	0.00003407		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.0001334	0.0001334		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.002173	0.002173		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.7924	0.7924		0.8	0	0	0.000094	0.001	1	99%			0%	
Uranium	A	mg/L	5.233E-06	5.233E-06		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.01732	-0.01732		0	0	0	0.0013	0.0013	1	0%			0%	
Zinc	A	mg/L	0.0005804	0.0005804		0	0	0	0.00273	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	100.7	100.7		0	0	0	0.00119	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					
15009793	ICSAB	ICPMS-6020-W-	ICSAB		1/31/2022 3:01:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	36.73	36.73		40	0	0	0.00086	0.001	1	92%	80	120	0%	
Antimony	A	mg/L	0.0001106	0.0001106		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.009764	0.009764		0.01	0	0	0.00019	0.001	1	98%	80	120	0%	
Barium	A	mg/L	0.0000793	0.0000793		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-9.185E-05	-9.185E-05		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001158	0.001158		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.009548	0.009548		0.01	0	0	0.000025	0.001	1	95%	80	120	0%	
Calcium	A	mg/L	117.8	117.8		120	0	0	0.02092	0.02092	50	98%	80	120	0%	
Cerium	A	mg/L	0.00000331	0.00000331		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.02068	0.02068		0.02	0	0	0.00018	0.001	1	103%	80	120	0%	
Cobalt	A	mg/L	0.02033	0.02033		0.02	0	0	0.000042	0.001	1	102%	80	120	0%	
Copper	A	mg/L	0.0208	0.0208		0.02	0	0	0.00027	0.001	1	104%	80	120	0%	
Iron	A	mg/L	99.37	99.37		100	0	0	0.00119	0.00119	5	99%	80	120	0%	
Lanthanum	A	mg/L	7.928E-06	7.928E-06		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	-6.073E-05	-6.073E-05		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	39.76	39.76		40	0	0	0.00564	0.00564	50	99%	80	120	0%	
Manganese	A	mg/L	0.02048	0.02048		0.02	0	0	0.000095	0.001	1	102%	80	120	0%	
Mercury	A	mg/L	0.00001115	0.00001115		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.7417	0.7417		0.8	0	0	0.00005	0.001	0.1	93%	80	120	0%	
Nickel	A	mg/L	0.02072	0.02072		0.02	0	0	0.00063	0.001	1	104%	80	120	0%	
Potassium	A	mg/L	39.23	39.23		40	0	0	0.08139	0.08139	50	98%	80	120	0%	
Selenium	A	mg/L	0.01049	0.01049		0.01	0	0	0.00033	0.001	1	105%	80	120	0%	
Silicon	A	mg/L	-0.0006158	-0.0006158		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.004506	0.004506		0.005	0	0	0.00002	0.001	0.04	90%	80	120	0%	
Sodium	A	mg/L	99.15	99.15		100	0	0	0.02171	0.02171	50	99%	80	120	0%	
Strontium	A	mg/L	0.001325	0.001325		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	6.157E-06	6.157E-06		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.00005884	0.00005884		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.001998	0.001998		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8021	0.8021		0.8	0	0	0.000094	0.001	1	100%	80	120	0%	
Uranium	A	mg/L	1.619E-06	1.619E-06		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.002278	0.002278		0.02	0	0	0.0013	0.0013	1	11%	80	120	0%	S
Zinc	A	mg/L	0.01051	0.01051		0.01	0	0	0.00273	0.00273	1	105%	80	120	0%	
Iron, Ferrous	C	mg/L	99.37	99.37		0	0	0	0.00119	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					
15009794	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 3:07:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	-0.0004968	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	7.081E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-1.617E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0001047	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.107E-05	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-6.895E-05	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	2.526E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003139	0.0003139		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	-5.888E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-9.058E-06	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002945	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-4.872E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	3.548E-07	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001669	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00039	0.00039		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	8.269E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.00315	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.002842	0.002842		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.002842	0.002842		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.0004358	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	-0.02121	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	-0.0001157	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009795	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 3:14:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	-0.000415	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	9.694E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-5.894E-08	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0001027	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-9.441E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-5.873E-05	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	3.389E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00006967	0.00006967		0	0	0	0.00005	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					
15009795	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 3:14:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	-4.855E-05	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-2.242E-05	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002926	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.475E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	6.012E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	9.995E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0002099	0.0002099		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	6.224E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.003761	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.001497	0.001497		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.001497	0.001497		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.000553	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	-0.007668	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	-8.149E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009796	CCV	ICPMS-6020-W-	CCV		1/31/2022 3:20:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04638	0.04638		0.05	0	0	0.00086	0.001	1	93%	90	110	0%	
Antimony	A	mg/L	0.05127	0.05127		0.05	0	0	0.00042	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05442	0.05442		0.05	0	0	0.00019	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.0538	0.0538		0.05	0	0	0.000042	0.001	1	108%	90	110	0%	
Beryllium	A	mg/L	0.04393	0.04393		0.05	0	0	0.00012	0.001	1	88%	90	110	0%	S
Boron	A	mg/L	0.04617	0.04617		0.05	0	0	0.00561	0.00561	1	92%	90	110	0%	
Cadmium	A	mg/L	0.05189	0.05189		0.05	0	0	0.000025	0.001	1	104%	90	110	0%	
Calcium	A	mg/L	12.01	12.01		12.5	0	0	0.02092	0.02092	50	96%	90	110	0%	
Cerium	A	mg/L	0.05033	0.05033		0.05	0	0	0.000012	0.001	0.1	101%	90	110	0%	
Chromium	A	mg/L	0.05432	0.05432		0.05	0	0	0.00018	0.001	1	109%	90	110	0%	
Cobalt	A	mg/L	0.05349	0.05349		0.05	0	0	0.000042	0.001	1	107%	90	110	0%	
Copper	A	mg/L	0.05425	0.05425		0.05	0	0	0.00035	0.001	1	108%	90	110	0%	
Iron	A	mg/L	1.253	1.253		1.3	0	0	0.00119	0.00119	5	96%	90	110	0%	
Lanthanum	A	mg/L	0.04988	0.04988		0.05	0	0	0.000011	0.001	0.1	100%	90	110	0%	
Lead	A	mg/L	0.05093	0.05093		0.05	0	0	0.000056	0.001	1	102%	90	110	0%	
Magnesium	A	mg/L	12.29	12.29		12.5	0	0	0.00564	0.00564	50	98%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009796	CCV	ICPMS-6020-W-	CCV		1/31/2022 3:20:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.05494	0.05494		0.05	0	0	0.0001	0.001	1	110%	90	110	0%	
Mercury	A	mg/L	0.0009849	0.0009849		0.001	0	0	0.00016	0.001	0.002	98%	90	110	0%	
Molybdenum	A	mg/L	0.04834	0.04834		0.05	0	0	0.00005	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.05464	0.05464		0.05	0	0	0.00063	0.001	1	109%	90	110	0%	
Potassium	A	mg/L	12.05	12.05		12.5	0	0	0.08139	0.08139	50	96%	90	110	0%	
Selenium	A	mg/L	0.05379	0.05379		0.05	0	0	0.00033	0.001	1	108%	90	110	0%	
Silicon	A	mg/L	0.2045	0.2045		0.2	0	0	0.01223	0.1	0.4	102%	90	110	0%	
Silver	A	mg/L	0.01983	0.01983		0.02	0	0	0.00002	0.001	0.04	99%	90	110	0%	
Sodium	A	mg/L	12.33	12.33		12.5	0	0	0.02171	0.02171	50	99%	90	110	0%	
Strontium	A	mg/L	0.05632	0.05632		0.05	0	0	0.00014	0.001	1	113%	90	110	0%	S
Thallium	A	mg/L	0.04905	0.04905		0.05	0	0	0.000041	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.052	0.052		0.05	0	0	0.00061	0.001	1	104%	90	110	0%	
Tin	A	mg/L	0.04893	0.04893		0.05	0	0	0.00132	0.00132	0.1	98%	90	110	0%	
Titanium	A	mg/L	0.05139	0.05139		0.05	0	0	0.000094	0.001	1	103%	90	110	0%	
Uranium	A	mg/L	0.05155	0.05155		0.05	0	0	0.000052	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.038	0.038		0.05	0	0	0.0013	0.0013	1	76%	90	110	0%	S
Zinc	A	mg/L	0.0561	0.0561		0.05	0	0	0.00273	0.00273	1	112%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.253	1.253		0	0	0	0.00119	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					
15009797	CCB	ICPMS-6020-W-	CCB		1/31/2022 3:26:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002104	-0.002104		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00006247	0.00006247		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0003894	-0.0003894		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	3.652E-06	3.652E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-8.335E-05	-8.335E-05		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.0009867	0.0009867		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	4.747E-06	4.747E-06		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.001458	0.001458		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	4.025E-07	4.025E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-8.865E-05	-8.865E-05		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-3.878E-06	-3.878E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	-1.933E-05	-1.933E-05		0	0	0	0.00027	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					
15009797	CCB	ICPMS-6020-W-	CCB		1/31/2022 3:26:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	A	mg/L	0.0005987	0.0005987		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-7.472E-07	-7.472E-07		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-5.555E-05	-5.555E-05		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	-0.002009	-0.002009		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-1.442E-05	-1.442E-05		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	6.104E-06	6.104E-06		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00005447	0.00005447		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-4.873E-05	-4.873E-05		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.003801	-0.003801		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-1.325E-05	-1.325E-05		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.002916	-0.002916		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.99E-06	-1.99E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.02966	0.02966		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	2.099E-06	2.099E-06		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009396	0.00009396		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00006157	0.00006157		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-6.266E-05	-6.266E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00007074	0.00007074		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	4.013E-06	4.013E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.01404	-0.01404		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-0.0000168	-0.0000168		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0005987	0.0005987		0	0	0	0.00119	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					
15009798	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 3:32:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	7.235E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	A	mg/L	-1.071E-05	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0000576	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	6.875E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001508	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	-0.00283	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.889E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00001523	0		0	0	0	0.000041	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					
15009798	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 3:32:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	0.00002075	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00007867	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.161E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.003141	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0002977	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0002977	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Potassium	B	mg/L	-0.001786	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	-8.435E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009799	MB-163179	ICPMS-6020-W-	MBLK		1/31/2022 3:39:0	1	163179	1/24/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0006786	0		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	
Antimony	A	mg/L	0.00003255	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0001822	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00004126	0		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-6.858E-05	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	
Boron	A	mg/L	0.001579	0		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	
Cadmium	A	mg/L	-2.348E-06	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	
Calcium	A	mg/L	0.01125	0		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	
Cerium	A	mg/L	1.763E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0001272	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00009505	0		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.0002471	0		0	0	0	0.0008747	0.00198	1	0%	0	0	0%	
Iron	A	mg/L	0.001164	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	
Lanthanum	A	mg/L	1.006E-07	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.0002223	0.0002223		0	0	0	7.716E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	-0.001289	0		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	
Manganese	A	mg/L	0.0001639	0		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00006618	0		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-3.636E-05	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	
Potassium	A	mg/L	0.02155	0		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	
Selenium	A	mg/L	0.00005146	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.01913	0		0	0	0	0.0422089	0.0053212	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					
15009799	MB-163179	ICPMS-6020-W-	MBLK		1/31/2022 3:39:0	1	163179	1/24/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	-6.214E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.04491	0		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	
Strontium	A	mg/L	0.0000233	0		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002278	0.0002278		0	0	0	0.0001114	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.0001476	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	
Tin	A	mg/L	0.0005779	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0005611	0		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	2.657E-06	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.008424	0		0	0	0	0.0039127	0.0021085	1	0%	0	0	0%	
Zinc	A	mg/L	0.000123	0		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	
Silica	C	mg/L	0.0409229	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	0.0409229	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					
15009800	MB-163290	ICPMS-6020-W-	MBLK		1/31/2022 3:45:2	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003038	0		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002558	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.000188	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.0001931	0		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-6.675E-05	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	
Boron	A	mg/L	0.001377	0		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	
Cadmium	A	mg/L	-3.273E-06	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	
Calcium	A	mg/L	0.03712	0		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	
Cerium	A	mg/L	0.00000269	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0001175	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001405	0.0001405		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.0004012	0		0	0	0	0.0008747	0.00198	1	0%	0	0	0%	
Iron	A	mg/L	0.001935	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	
Lanthanum	A	mg/L	1.769E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.0002042	0.0002042		0	0	0	7.716E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	0.0003971	0		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	
Manganese	A	mg/L	0.0002052	0		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001976	0.0001976		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009800	MB-163290	ICPMS-6020-W- MBLK				1/31/2022 3:45:2	1	163290	1/27/2022 8:	0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	-2.118E-05	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	
Potassium	A	mg/L	0.02426	0		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	
Selenium	A	mg/L	0.00003636	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.01802	0		0	0	0	0.0422089	0.0053212	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.155E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.05172	0		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	
Strontium	A	mg/L	0.00009065	0		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001589	0.0001589		0	0	0	0.0001114	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00008556	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	
Tin	A	mg/L	0.0008131	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0004607	0		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.295E-06	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.009144	0		0	0	0	0.0039127	0.0021085	1	0%	0	0	0%	
Zinc	A	mg/L	0.000533	0		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	
Silica	C	mg/L	0.03854838	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	0.03854838	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					
15009801	MB-163315	ICPMS-6020-W- MBLK				1/31/2022 3:51:3	1	163315	1/27/2022 1:	0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-3.897E-06	0		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002028	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0001673	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00001479	0		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-6.359E-05	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	
Boron	A	mg/L	0.0009354	0		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	
Cadmium	A	mg/L	-3.934E-06	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	
Calcium	A	mg/L	0.01327	0		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	
Cerium	A	mg/L	1.055E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0001077	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001467	0.0001467		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.0003382	0		0	0	0	0.0008747	0.00198	1	0%	0	0	0%	
Iron	A	mg/L	0.001247	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	
Lanthanum	A	mg/L	-5.808E-07	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009801	MB-163315	ICPMS-6020-W- MBLK			1/31/2022 3:51:3	1	163315	1/27/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.0001148	0.0001148		0	0	0	7.716E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	-0.0007829	0		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	
Manganese	A	mg/L	0.0001257	0		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0000956	0		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-3.291E-05	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	
Potassium	A	mg/L	0.008429	0		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	
Selenium	A	mg/L	0.00004402	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.01888	0		0	0	0	0.0422089	0.0053212	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.335E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.03974	0		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	
Strontium	A	mg/L	0.00002469	0		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001108	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00005978	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	
Tin	A	mg/L	0.0006766	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0003479	0		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	9.315E-07	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.009169	0		0	0	0	0.0039127	0.0021085	1	0%	0	0	0%	
Zinc	A	mg/L	0.0001863	0		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	
Silica	C	mg/L	0.0403881	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	0.0403881	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					
15009802	LCS4-163315	ICPMS-6020-W- LCS4			1/31/2022 3:57:4	1	163315	1/27/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.484	0.484		0.5	0	0	0.0038747	0.0031975	1	97%	80	120	0%	
Antimony	A	mg/L	0.1031	0.1031		0.1	0	0	0.0002799	0.001	0.1	103%	80	120	0%	
Arsenic	A	mg/L	0.1008	0.1008		0.1	0	0	0.0003412	0.001	1	101%	80	120	0%	
Barium	A	mg/L	0.09589	0.09589		0.1	0	0	0.0002682	0.001	1	96%	80	120	0%	
Beryllium	A	mg/L	0.04397	0.04397		0.05	0	0	0.0001071	0.01	1	88%	80	120	0%	
Boron	A	mg/L	0.09408	0.09408		0.1	0	0	0.0203802	0.01467	1	94%	80	120	0%	
Cadmium	A	mg/L	0.05289	0.05289		0.05	0	0	1.821E-05	0.005	1	106%	80	120	0%	
Calcium	A	mg/L	4.964	4.964		5	0	0	0.0372936	0.1103481	50	99%	80	120	0%	
Cerium	A	mg/L	0.105	0.105		0.1	0	0	2.738E-05	0.001	0.1	105%	80	120	0%	
Chromium	A	mg/L	0.1023	0.1023		0.1	0	0	0.0015375	0.0015375	1	102%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009802	LCS4-163315	ICPMS-6020-W-	LCS4		1/31/2022 3:57:4	1	163315	1/27/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cobalt	A	mg/L	0.09692	0.09692		0.1	0	0	9.541E-05	0.001	1	97%	80	120	0%	
Copper	A	mg/L	0.1083	0.1083		0.1	0	0	0.0008747	0.00198	1	108%	80	120	0%	
Iron	A	mg/L	0.5035	0.5035		0.5	0	0	0.007424	0.00513	5	101%	80	120	0%	
Lanthanum	A	mg/L	0.1056	0.1056		0.1	0	0	0.000055	0.001	0.1	106%	80	120	0%	
Lead	A	mg/L	0.09797	0.09797		0.1	0	0	7.716E-05	0.001	1	98%	88	115	0%	
Magnesium	A	mg/L	5.165	5.165		5	0	0	0.0104254	0.0081522	50	103%	80	120	0%	
Manganese	A	mg/L	0.5188	0.5188		0.5	0	0	0.0005399	0.001	1	104%	80	120	0%	
Molybdenum	A	mg/L	0.09499	0.09499		0.1	0	0	0.0001763	0.001	0.1	95%	80	120	0%	
Nickel	A	mg/L	0.1034	0.1034		0.1	0	0	0.0002288	0.0024200	1	103%	80	120	0%	
Potassium	A	mg/L	4.909	4.909		5	0	0	0.0765619	0.0261205	50	98%	80	120	0%	
Selenium	A	mg/L	0.101	0.101		0.1	0	0	0.0001357	0.001	1	101%	80	120	0%	
Silicon	A	mg/L	0.9802	0.9802		1	0	0	0.0422089	0.0053212	0.4	98%	80	120	0%	
Silver	A	mg/L	0.009518	0.009518		0.01	0	0	4.281E-05	0.001	0.04	95%	80	120	0%	
Sodium	A	mg/L	5.299	5.299		5	0	0	0.1019461	0.7330269	50	106%	80	120	0%	
Strontium	A	mg/L	0.1032	0.1032		0.1	0	0	0.0002433	0.001	1	103%	80	120	0%	
Thallium	A	mg/L	0.09807	0.09807		0.1	0	0	0.0001114	0.001	1	98%	80	120	0%	
Thorium	A	mg/L	0.09725	0.09725		0.1	0	0	0.0003796	0.00415	1	97%	80	120	0%	
Tin	A	mg/L	0.09755	0.09755		0.1	0	0	0.0018932	0.0011175	0.1	98%	80	120	0%	
Titanium	A	mg/L	0.09502	0.09502		0.1	0	0	0.0005733	0.001	1	95%	80	120	0%	
Uranium	A	mg/L	0.1002	0.1002		0.1	0	0	1.699E-05	0.0003	1	100%	80	120	0%	
Vanadium	A	mg/L	0.0923	0.0923		0.1	0	0	0.0039127	0.0021085	1	92%	80	120	0%	
Zinc	A	mg/L	0.1018	0.1018		0.1	0	0	0.0011617	0.0065544	1	102%	80	120	0%	
Silica	C	mg/L	2.09684384	2.09684384		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	2.09684384	2.09684384		2.14	0	0	0.0902933	0.0113831	5	98%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009803	LCS4-163179	ICPMS-6020-W-	LCS4		1/31/2022 4:04:0	1	163179	1/24/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.4813	0.4813		0.5	0	0	0.0038747	0.0031975	1	96%	80	120	0%	
Antimony	A	mg/L	0.1023	0.1023		0.1	0	0	0.0002799	0.001	0.1	102%	80	120	0%	
Arsenic	A	mg/L	0.1003	0.1003		0.1	0	0	0.0003412	0.001	1	100%	80	120	0%	
Barium	A	mg/L	0.09692	0.09692		0.1	0	0	0.0002682	0.001	1	97%	80	120	0%	
Beryllium	A	mg/L	0.0432	0.0432		0.05	0	0	0.0001071	0.01	1	86%	80	120	0%	
Boron	A	mg/L	0.09495	0.09495		0.1	0	0	0.0203802	0.01467	1	95%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009803	LCS4-163179	ICPMS-6020-W-	LCS4		1/31/2022 4:04:0	1	163179	1/24/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.05295	0.05295		0.05	0	0	1.821E-05	0.005	1	106%	80	120	0%	
Calcium	A	mg/L	4.779	4.779		5	0	0	0.0372936	0.1103481	50	96%	80	120	0%	
Cerium	A	mg/L	0.1053	0.1053		0.1	0	0	2.738E-05	0.001	0.1	105%	80	120	0%	
Chromium	A	mg/L	0.1017	0.1017		0.1	0	0	0.0015375	0.0015375	1	102%	80	120	0%	
Cobalt	A	mg/L	0.0968	0.0968		0.1	0	0	9.541E-05	0.001	1	97%	80	120	0%	
Copper	A	mg/L	0.1078	0.1078		0.1	0	0	0.0008747	0.00198	1	108%	80	120	0%	
Iron	A	mg/L	0.4943	0.4943		0.5	0	0	0.007424	0.00513	5	99%	80	120	0%	
Lanthanum	A	mg/L	0.108	0.108		0.1	0	0	0.000055	0.001	0.1	108%	80	120	0%	
Lead	A	mg/L	0.0989	0.0989		0.1	0	0	7.716E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	5.233	5.233		5	0	0	0.0104254	0.0081522	50	105%	80	120	0%	
Manganese	A	mg/L	0.5158	0.5158		0.5	0	0	0.0005399	0.001	1	103%	80	120	0%	
Molybdenum	A	mg/L	0.09332	0.09332		0.1	0	0	0.0001763	0.001	0.1	93%	80	120	0%	
Nickel	A	mg/L	0.1022	0.1022		0.1	0	0	0.0002288	0.0024200	1	102%	80	120	0%	
Potassium	A	mg/L	4.932	4.932		5	0	0	0.0765619	0.0261205	50	99%	80	120	0%	
Selenium	A	mg/L	0.0986	0.0986		0.1	0	0	0.0001357	0.001	1	99%	80	120	0%	
Silicon	A	mg/L	0.9757	0.9757		1	0	0	0.0422089	0.0053212	0.4	98%	80	120	0%	
Silver	A	mg/L	0.00925	0.00925		0.01	0	0	4.281E-05	0.001	0.04	92%	80	120	0%	
Sodium	A	mg/L	5.265	5.265		5	0	0	0.1019461	0.7330269	50	105%	80	120	0%	
Strontium	A	mg/L	0.1028	0.1028		0.1	0	0	0.0002433	0.001	1	103%	80	120	0%	
Thallium	A	mg/L	0.09851	0.09851		0.1	0	0	0.0001114	0.001	1	99%	80	120	0%	
Thorium	A	mg/L	0.09939	0.09939		0.1	0	0	0.0003796	0.00415	1	99%	80	120	0%	
Tin	A	mg/L	0.09664	0.09664		0.1	0	0	0.0018932	0.0011175	0.1	97%	80	120	0%	
Titanium	A	mg/L	0.09157	0.09157		0.1	0	0	0.0005733	0.001	1	92%	80	120	0%	
Uranium	A	mg/L	0.1005	0.1005		0.1	0	0	1.699E-05	0.0003	1	100%	80	120	0%	
Vanadium	A	mg/L	0.09235	0.09235		0.1	0	0	0.0039127	0.0021085	1	92%	80	120	0%	
Zinc	A	mg/L	0.1027	0.1027		0.1	0	0	0.0011617	0.0065544	1	103%	80	120	0%	
Silica	C	mg/L	2.08721744	2.08721744		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	2.08721744	2.08721744		2.14	0	0	0.0902933	0.0113831	5	98%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009804	LCS4-163290	ICPMS-6020-W-	LCS4		1/31/2022 4:10:1	1	163290	1/27/2022 8:	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					
15009804	LCS4-163290	ICPMS-6020-W-	LCS4		1/31/2022 4:10:1	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.513	0.513		0.5	0	0	0.0038747	0.0031975	1	103%	80	120	0%	
Antimony	A	mg/L	0.1119	0.1119		0.1	0	0	0.0002799	0.001	0.1	112%	80	120	0%	
Arsenic	A	mg/L	0.09972	0.09972		0.1	0	0	0.0003412	0.001	1	100%	80	120	0%	
Barium	A	mg/L	0.1076	0.1076		0.1	0	0	0.0002682	0.001	1	108%	80	120	0%	
Beryllium	A	mg/L	0.04706	0.04706		0.05	0	0	0.0001071	0.01	1	94%	80	120	0%	
Boron	A	mg/L	0.1023	0.1023		0.1	0	0	0.0203802	0.01467	1	102%	80	120	0%	
Cadmium	A	mg/L	0.05231	0.05231		0.05	0	0	1.821E-05	0.005	1	105%	80	120	0%	
Calcium	A	mg/L	4.686	4.686		5	0	0	0.0372936	0.1103481	50	94%	80	120	0%	
Cerium	A	mg/L	0.1046	0.1046		0.1	0	0	2.738E-05	0.001	0.1	105%	80	120	0%	
Chromium	A	mg/L	0.1021	0.1021		0.1	0	0	0.0015375	0.0015375	1	102%	80	120	0%	
Cobalt	A	mg/L	0.09951	0.09951		0.1	0	0	9.541E-05	0.001	1	100%	80	120	0%	
Copper	A	mg/L	0.1076	0.1076		0.1	0	0	0.0008747	0.00198	1	108%	80	120	0%	
Iron	A	mg/L	0.4872	0.4872		0.5	0	0	0.007424	0.00513	5	97%	80	120	0%	
Lanthanum	A	mg/L	0.1061	0.1061		0.1	0	0	0.000055	0.001	0.1	106%	80	120	0%	
Lead	A	mg/L	0.1055	0.1055		0.1	0	0	7.716E-05	0.001	1	105%	88	115	0%	
Magnesium	A	mg/L	5.252	5.252		5	0	0	0.0104254	0.0081522	50	105%	80	120	0%	
Manganese	A	mg/L	0.5138	0.5138		0.5	0	0	0.0005399	0.001	1	103%	80	120	0%	
Molybdenum	A	mg/L	0.1014	0.1014		0.1	0	0	0.0001763	0.001	0.1	101%	80	120	0%	
Nickel	A	mg/L	0.1036	0.1036		0.1	0	0	0.0002288	0.0024200	1	104%	80	120	0%	
Potassium	A	mg/L	4.81	4.81		5	0	0	0.0765619	0.0261205	50	96%	80	120	0%	
Selenium	A	mg/L	0.09755	0.09755		0.1	0	0	0.0001357	0.001	1	98%	80	120	0%	
Silicon	A	mg/L	0.9532	0.9532		1	0	0	0.0422089	0.0053212	0.4	95%	80	120	0%	
Silver	A	mg/L	0.01024	0.01024		0.01	0	0	4.281E-05	0.001	0.04	102%	80	120	0%	
Sodium	A	mg/L	5.393	5.393		5	0	0	0.1019461	0.7330269	50	108%	80	120	0%	
Strontium	A	mg/L	0.1049	0.1049		0.1	0	0	0.0002433	0.001	1	105%	80	120	0%	
Thallium	A	mg/L	0.09778	0.09778		0.1	0	0	0.0001114	0.001	1	98%	80	120	0%	
Thorium	A	mg/L	0.09646	0.09646		0.1	0	0	0.0003796	0.00415	1	96%	80	120	0%	
Tin	A	mg/L	0.1072	0.1072		0.1	0	0	0.0018932	0.0011175	0.1	107%	80	120	0%	
Titanium	A	mg/L	0.09372	0.09372		0.1	0	0	0.0005733	0.001	1	94%	80	120	0%	
Uranium	A	mg/L	0.106	0.106		0.1	0	0	1.699E-05	0.0003	1	106%	80	120	0%	
Vanadium	A	mg/L	0.09439	0.09439		0.1	0	0	0.0039127	0.0021085	1	94%	80	120	0%	
Zinc	A	mg/L	0.1025	0.1025		0.1	0	0	0.0011617	0.0065544	1	102%	80	120	0%	
Silica	C	mg/L	2.03908544	2.03908544		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	2.03908544	2.03908544		2.14	0	0	0.0902933	0.0113831	5	95%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009805	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 4:16:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	8.267E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	A	mg/L	2.101E-07	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-6.497E-05	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	5.962E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00002998	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	-0.0009981	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.00000271	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0001739	0.0001739		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001516	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-6.13E-06	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	5.555E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002742	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00007635	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00007635	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Potassium	B	mg/L	0.01411	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	-7.101E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009806	B22011446-001	ICPMS-6020-W-	SAMP		1/31/2022 4:22:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-0.0001089	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	10.58	10.58		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	4.099E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	B	mg/L	0.00002694	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.003979	0.003979		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.003979	0.003979		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.912	9.912		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Mercury	B	mg/L	0.00001797	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.000124	0.000124		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Potassium	B	mg/L	3.384	3.384		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Silver	B	mg/L	-6.218E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	33.46	33.46		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00006395	0.00006395		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.00002831	0		0	0	0	0.00061	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					
15009806	B22011446-001	ICPMS-6020-W-	SAMP		1/31/2022 4:22:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	B	mg/L	0.0001866	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.002019	0.002019		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.0000209	0		0	0	0	0.000052	0.0003	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					
15009807	B22011446-001	ICPMS-6020-W-	SD		1/31/2022 4:28:5	5	R373996		0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0002274	0		0	0	0.004058	0.0043	0.0043	1	0%				
Antimony	A	mg/L	0.00009131	0		0	0	0	0.0021	0.0021	0.1	0%				
Arsenic	A	mg/L	-0.0002359	0		0	0	0	0.00095	0.001	1	0%				
Barium	A	mg/L	0.0008352	0.004176		0	0	0.004359	0.00021	0.001	1	0%			4%	
Beryllium	A	mg/L	-8.525E-05	0		0	0	0	0.0006	0.001	1	0%				
Boron	A	mg/L	0.01139	0.05695		0	0	0.04276	0.02805	0.02805	1	0%				N
Cadmium	A	mg/L	0.00001777	0		0	0	3.179E-05	0.000125	0.001	1	0%				
Calcium	A	mg/L	2.101	10.505		0	0	10.58	0.1046	0.1046	50	0%			1%	
Cerium	A	mg/L	2.253E-06	0		0	0	0	0.00006	0.001	0.1	0%				
Chromium	A	mg/L	0.0004625	0.0023125		0	0	0.002215	0.0009	0.001	1	0%				N
Cobalt	A	mg/L	4.719E-06	0		0	0	0	0.00021	0.001	1	0%				
Copper	A	mg/L	0.0001631	0		0	0	0.0006438	0.00135	0.00135	1	0%				
Iron	A	mg/L	0.0009789	0		0	0	0.003979	0.00595	0.00595	5	0%				
Lanthanum	A	mg/L	6.543E-07	0		0	0	0	0.000055	0.001	0.1	0%				
Lead	A	mg/L	-7.985E-05	0		0	0	0	0.00028	0.001	1	0%				
Magnesium	A	mg/L	1.966	9.83		0	0	9.912	0.0282	0.0282	50	0%			1%	
Manganese	A	mg/L	0.00005532	0		0	0	0.0002179	0.000475	0.001	1	0%				
Mercury	A	mg/L	0.00002159	0		0	0	0	0.0008	0.001	0.002	0%				
Molybdenum	A	mg/L	0.00003725	0		0	0	0.000124	0.00025	0.001	0.1	0%				
Nickel	A	mg/L	0.0001697	0		0	0	0.0008954	0.00315	0.00315	1	0%				
Potassium	A	mg/L	0.6487	3.2435		0	0	3.384	0.40695	0.40695	50	0%				N
Selenium	A	mg/L	0.00002527	0		0	0	0	0.00165	0.00165	1	0%				
Silicon	A	mg/L	4.534	22.67		0	0	22.86	0.06115	0.1	0.4	0%			1%	
Silver	A	mg/L	-6.429E-05	0		0	0	0	0.0001	0.001	0.04	0%				
Sodium	A	mg/L	6.725	33.625		0	0	33.46	0.10855	0.10855	50	0%			0%	
Strontium	A	mg/L	0.01498	0.0749		0	0	0.07106	0.0007	0.001	1	0%			5%	
Thallium	A	mg/L	0.00003706	0		0	0	6.395E-05	0.000205	0.001	1	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009807	B22011446-001	ICPMS-6020-W- SD			1/31/2022 4:28:5	5	R373996			0	2E+07					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	0.00002741	0		0	0	0	0.00305	0.00305	1	0%				
Tin	A	mg/L	0.0001933	0		0	0	0	0.0066	0.0066	0.1	0%				
Titanium	A	mg/L	0.0007192	0.003596		0	0	0.002019	0.00047	0.001	1	0%				N
Uranium	A	mg/L	0.0000055	0		0	0	0	0.00026	0.0003	1	0%				
Vanadium	A	mg/L	-0.00175	0		0	0	0.003032	0.0065	0.0065	1	0%				
Zinc	A	mg/L	0.002131	0		0	0	0.009169	0.01365	0.01365	1	0%				
Iron, Ferrous	C	mg/L	0.0009789	0		0	0	0.003979	0.00595	0.00595	5	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009808	B22011446-001	ICPMS-6020-W- MS			1/31/2022 4:35:0	1.03	R373996			2E+07	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05091	0.0524373		0.05	0.004058	0	0.0008858	0.001	1	97%	75	125	0%	
Antimony	A	mg/L	0.05053	0.0520459		0.05	0	0	0.0004326	0.001	0.1	104%	75	125	0%	
Arsenic	A	mg/L	0.0506	0.052118		0.05	0	0	0.0001957	0.001	1	104%	75	125	0%	
Barium	A	mg/L	0.05797	0.0597091		0.05	0.004359	0	4.326E-05	0.001	1	111%	75	125	0%	
Beryllium	A	mg/L	0.04498	0.0463294		0.05	0	0	0.0001236	0.001	1	93%	75	125	0%	
Boron	A	mg/L	0.08924	0.0919172		0.05	0.04276	0	0.0057783	0.0057783	1	98%	75	125	0%	
Cadmium	A	mg/L	0.05114	0.0526742		0.05	3.179E-05	0	2.575E-05	0.001	1	105%	75	125	0%	
Calcium	A	mg/L	55.76	57.4328		50	10.58	0	0.0215476	0.0215476	50	94%	75	125	0%	E
Cerium	A	mg/L	0.0514	0.052942		0.05	0	0	1.236E-05	0.001	0.1	106%	75	125	0%	
Chromium	A	mg/L	0.05197	0.0535291		0.05	0.002215	0	0.0001854	0.001	1	103%	75	125	0%	
Cobalt	A	mg/L	0.04914	0.0506142		0.05	0	0	4.326E-05	0.001	1	101%	75	125	0%	
Copper	A	mg/L	0.0534	0.055002		0.05	0.0006438	0	0.0002781	0.001	1	109%	75	125	0%	
Iron	A	mg/L	4.82	4.9646		5.05	0.003979	0	0.0012257	0.0012257	5	98%	75	125	0%	
Lanthanum	A	mg/L	0.00001137	1.1711E-05		0.05	0	0	1.133E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.05095	0.0524785		0.05	0	0	5.768E-05	0.001	1	105%	88	115	0%	
Magnesium	A	mg/L	59.52	61.3056		50	9.912	0	0.0058092	0.0058092	50	103%	75	125	0%	E
Manganese	A	mg/L	0.05054	0.0520562		0.05	0.0002179	0	9.785E-05	0.001	1	104%	75	125	0%	
Mercury	A	mg/L	0.001046	0.00107738		0.001	0	0	0.0001648	0.001	0.002	108%	75	125	0%	
Molybdenum	A	mg/L	0.04824	0.0496872		0.05	0.000124	0	0.0000515	0.001	0.1	99%	75	125	0%	
Nickel	A	mg/L	0.05142	0.0529626		0.05	0.0008954	0	0.0006489	0.001	1	104%	75	125	0%	
Potassium	A	mg/L	50.78	52.3034		50	3.384	0	0.0838317	0.0838317	50	98%	75	125	0%	E
Selenium	A	mg/L	0.05067	0.0521901		0.05	0	0	0.0003399	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	21.8	22.454		0.2	22.86	0	0.0125969	0.1	0.4		75	125	0%	AE

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009808	B22011446-001	ICPMS-6020-W- MS			1/31/2022 4:35:0	1.03	R373996		2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	0.02037	0.0209811		0.02	0	0	0.0000206	0.001	0.04	105%	75	125	0%	
Sodium	A	mg/L	81.76	84.2128		50	33.46	0	0.0223613	0.0223613	50	102%	75	125	0%	E
Strontium	A	mg/L	0.1226	0.126278		0.05	0.07106	0	0.0001442	0.001	1	110%	75	125	0%	
Thallium	A	mg/L	0.05135	0.0528905		0.05	6.395E-05	0	4.223E-05	0.001	1	106%	75	125	0%	
Thorium	A	mg/L	0.04974	0.0512322		0.05	0	0	0.0006283	0.001	1	102%	75	125	0%	
Tin	A	mg/L	0.04949	0.0509747		0.05	0	0	0.0013596	0.0013596	0.1	102%	75	125	0%	
Titanium	A	mg/L	0.05407	0.0556921		0.05	0.002019	0	9.682E-05	0.001	1	107%	75	125	0%	
Uranium	A	mg/L	0.05196	0.0535188		0.05	0	0	5.356E-05	0.0003	1	107%	75	125	0%	
Vanadium	A	mg/L	0.05977	0.0615631		0.05	0.003032	0	0.001339	0.001339	1	117%	75	125	0%	
Zinc	A	mg/L	0.06123	0.0630669		0.05	0.009169	0	0.0028119	0.0028119	1	108%	75	125	0%	
Iron, Ferrous	C	mg/L	4.82	4.9646		0	0.003979	0	0.0012257	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					
15009809	B22011446-001	ICPMS-6020-W- MSD			1/31/2022 4:41:2	1.03	R373996		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	0.04841	0.0498623		0.05	0.004058	0.0524373	0.0008858	0.001	1	92%	75	125	5%	
Antimony	A	mg/L	0.04987	0.0513661		0.05	0	0.0520459	0.0004326	0.001	0.1	103%	75	125	1%	
Arsenic	A	mg/L	0.05008	0.0515824		0.05	0	0.052118	0.0001957	0.001	1	103%	75	125	1%	
Barium	A	mg/L	0.05605	0.0577315		0.05	0.004359	0.0597091	4.326E-05	0.001	1	107%	75	125	3%	
Beryllium	A	mg/L	0.04218	0.0434454		0.05	0	0.0463294	0.0001236	0.001	1	87%	75	125	6%	
Boron	A	mg/L	0.0853	0.087859		0.05	0.04276	0.0919172	0.0057783	0.0057783	1	90%	75	125	5%	
Cadmium	A	mg/L	0.0494	0.050882		0.05	3.179E-05	0.0526742	2.575E-05	0.001	1	102%	75	125	3%	
Calcium	A	mg/L	57.28	58.9984		50	10.58	57.4328	0.0215476	0.0215476	50	97%	75	125	3%	E
Cerium	A	mg/L	0.05099	0.0525197		0.05	0	0.052942	1.236E-05	0.001	0.1	105%	75	125	1%	
Chromium	A	mg/L	0.05156	0.0531068		0.05	0.002215	0.0535291	0.0001854	0.001	1	102%	75	125	1%	
Cobalt	A	mg/L	0.04791	0.0493473		0.05	0	0.0506142	4.326E-05	0.001	1	99%	75	125	3%	
Copper	A	mg/L	0.05238	0.0539514		0.05	0.0006438	0.055002	0.0002781	0.001	1	107%	75	125	2%	
Iron	A	mg/L	4.907	5.05421		5.05	0.003979	4.9646	0.0012257	0.0012257	5	100%	75	125	2%	
Lanthanum	A	mg/L	3.264E-06	0		0.05	0	1.171E-05	1.133E-05	0.001	0.1	0%	75	125		S
Lead	A	mg/L	0.05018	0.0516854		0.05	0	0.0524785	5.768E-05	0.001	1	103%	88	115	2%	
Magnesium	A	mg/L	59.71	61.5013		50	9.912	61.3056	0.0058092	0.0058092	50	103%	75	125	0%	E
Manganese	A	mg/L	0.04942	0.0509026		0.05	0.0002179	0.0520562	9.785E-05	0.001	1	101%	75	125	2%	
Mercury	A	mg/L	0.0009906	0.00102032		0.001	0	0.0010774	0.0001648	0.001	0.002	102%	75	125	5%	
Molybdenum	A	mg/L	0.04671	0.0481113		0.05	0.000124	0.0496872	0.0000515	0.001	0.1	96%	75	125	3%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009809	B22011446-001	ICPMS-6020-W- MSD			1/31/2022 4:41:2	1.03	R373996		2E+07	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	0.05025	0.0517575		0.05	0.0008954	0.0529626	0.0006489	0.001	1	102%	75	125	2%	
Potassium	A	mg/L	50.04	51.5412		50	3.384	52.3034	0.0838317	0.0838317	50	96%	75	125	1%	E
Selenium	A	mg/L	0.0505	0.052015		0.05	0	0.0521901	0.0003399	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	21.64	22.2892		0.2	22.86	22.454	0.0125969	0.1	0.4		75	125	1%	AE
Silver	A	mg/L	0.01948	0.0200644		0.02	0	0.0209811	0.0000206	0.001	0.04	100%	75	125	4%	
Sodium	A	mg/L	81.45	83.8935		50	33.46	84.2128	0.0223613	0.0223613	50	101%	75	125	0%	E
Strontium	A	mg/L	0.1215	0.125145		0.05	0.07106	0.126278	0.0001442	0.001	1	108%	75	125	1%	
Thallium	A	mg/L	0.05034	0.0518502		0.05	6.395E-05	0.0528905	4.223E-05	0.001	1	104%	75	125	2%	
Thorium	A	mg/L	0.04721	0.0486263		0.05	0	0.0512322	0.0006283	0.001	1	97%	75	125	5%	
Tin	A	mg/L	0.04806	0.0495018		0.05	0	0.0509747	0.0013596	0.0013596	0.1	99%	75	125	3%	
Titanium	A	mg/L	0.05382	0.0554346		0.05	0.002019	0.0556921	9.682E-05	0.001	1	107%	75	125	0%	
Uranium	A	mg/L	0.05141	0.0529523		0.05	0	0.0535188	5.356E-05	0.0003	1	106%	75	125	1%	
Vanadium	A	mg/L	0.05767	0.0594001		0.05	0.003032	0.0615631	0.001339	0.001339	1	113%	75	125	4%	
Zinc	A	mg/L	0.05975	0.0615425		0.05	0.009169	0.0630669	0.0028119	0.0028119	1	105%	75	125	2%	
Iron, Ferrous	C	mg/L	4.907	5.05421		0	0.003979	4.9646	0.0012257	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					
15009810	CCV	ICPMS-6020-W- CCV			1/31/2022 4:47:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04949	0.04949		0.05	0	0	0.00086	0.001	1	99%	90	110	0%	
Antimony	A	mg/L	0.05456	0.05456		0.05	0	0	0.00044	0.001	0.1	109%	90	110	0%	
Arsenic	A	mg/L	0.05461	0.05461		0.05	0	0	0.00095	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05659	0.05659		0.05	0	0	0.000042	0.001	1	113%	90	110	0%	S
Beryllium	A	mg/L	0.04739	0.04739		0.05	0	0	0.00012	0.001	1	95%	90	110	0%	
Boron	A	mg/L	0.05148	0.05148		0.05	0	0	0.00561	0.00561	1	103%	90	110	0%	
Cadmium	A	mg/L	0.05575	0.05575		0.05	0	0	0.000025	0.001	1	111%	90	110	0%	S
Calcium	A	mg/L	12.1	12.1		12.5	0	0	0.02092	0.02092	50	97%	90	110	0%	
Cerium	A	mg/L	0.05111	0.05111		0.05	0	0	0.000012	0.001	0.1	102%	90	110	0%	
Chromium	A	mg/L	0.0516	0.0516		0.05	0	0	0.00061	0.001	1	103%	90	110	0%	
Cobalt	A	mg/L	0.05356	0.05356		0.05	0	0	0.000042	0.001	1	107%	90	110	0%	
Copper	A	mg/L	0.05471	0.05471		0.05	0	0	0.00035	0.001	1	109%	90	110	0%	
Iron	A	mg/L	1.316	1.316		1.3	0	0	0.00119	0.00119	5	101%	90	110	0%	
Lanthanum	A	mg/L	0.05154	0.05154		0.05	0	0	0.000011	0.001	0.1	103%	90	110	0%	
Lead	A	mg/L	0.05301	0.05301		0.05	0	0	0.000056	0.001	1	106%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009810	CCV	ICPMS-6020-W-	CCV		1/31/2022 4:47:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	12.93	12.93		12.5	0	0	0.00564	0.00564	50	103%	90	110	0%	
Manganese	A	mg/L	0.05492	0.05492		0.05	0	0	0.0001	0.001	1	110%	90	110	0%	
Mercury	A	mg/L	0.0009785	0.0009785		0.001	0	0	0.00016	0.001	0.002	98%	90	110	0%	
Molybdenum	A	mg/L	0.05117	0.05117		0.05	0	0	0.00005	0.001	0.1	102%	90	110	0%	
Nickel	A	mg/L	0.05714	0.05714		0.05	0	0	0.00063	0.001	1	114%	90	110	0%	S
Potassium	A	mg/L	11.96	11.96		12.5	0	0	0.08139	0.08139	50	96%	90	110	0%	
Selenium	A	mg/L	0.05655	0.05655		0.05	0	0	0.00033	0.001	1	113%	90	110	0%	S
Silicon	A	mg/L	0.2131	0.2131		0.2	0	0	0.01223	0.1	0.4	107%	90	110	0%	
Silver	A	mg/L	0.02102	0.02102		0.02	0	0	0.00002	0.001	0.04	105%	90	110	0%	
Sodium	A	mg/L	12.94	12.94		12.5	0	0	0.02171	0.02171	50	104%	90	110	0%	
Strontium	A	mg/L	0.05742	0.05742		0.05	0	0	0.00014	0.001	1	115%	90	110	0%	S
Thallium	A	mg/L	0.0526	0.0526		0.05	0	0	0.000041	0.001	1	105%	90	110	0%	
Thorium	A	mg/L	0.05276	0.05276		0.05	0	0	0.00061	0.001	1	106%	90	110	0%	
Tin	A	mg/L	0.05192	0.05192		0.05	0	0	0.00132	0.00132	0.1	104%	90	110	0%	
Titanium	A	mg/L	0.05153	0.05153		0.05	0	0	0.000094	0.001	1	103%	90	110	0%	
Uranium	A	mg/L	0.05428	0.05428		0.05	0	0	0.000052	0.0003	1	109%	90	110	0%	
Vanadium	A	mg/L	0.05026	0.05026		0.05	0	0	0.0013	0.0013	1	101%	90	110	0%	
Zinc	A	mg/L	0.05799	0.05799		0.05	0	0	0.00273	0.00273	1	116%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.316	1.316		0	0	0	0.00119	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					
15009811	CCB	ICPMS-6020-W-	CCB		1/31/2022 4:53:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002286	-0.002286		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.000205	0.000205		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0001855	-0.0001855		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-2.287E-06	-2.287E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-9.444E-05	-9.444E-05		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.00214	0.00214		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	7.409E-06	7.409E-06		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.002205	-0.002205		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	2.168E-07	2.168E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	3.646E-06	3.646E-06		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-1.276E-05	-1.276E-05		0	0	0	0.000042	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					
15009811	CCB	ICPMS-6020-W-	CCB		1/31/2022 4:53:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	-2.077E-05	-2.077E-05		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	-0.0001549	-0.0001549		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-3.45E-07	-3.45E-07		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-0.0001115	-0.0001115		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.007442	0.007442		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-1.236E-05	-1.236E-05		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001149	0.00001149		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00004222	0.00004222		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-6.217E-05	-6.217E-05		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.04685	-0.04685		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-1.239E-06	-1.239E-06		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.001153	-0.001153		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	7.243E-07	7.243E-07		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.04641	0.04641		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	0.00001156	0.00001156		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001195	0.0001195		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00009425	0.00009425		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-1.126E-05	-1.126E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00008489	0.00008489		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	4.422E-06	4.422E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.00218	-0.00218		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-3.087E-05	-3.087E-05		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0001549	-0.0001549		0	0	0	0.00119	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					
15009812	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 5:00:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	4.04E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	A	mg/L	-1.292E-05	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0001153	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	8.512E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001156	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	-0.001405	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.572E-07	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009812	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 5:00:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thallium	A	mg/L	0.00002823	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00003609	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-2.725E-05	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.285E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.0001122	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-0.0001804	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0001804	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-7.497E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009813	B22011446-001	ICPMS-6020-W-	SAMP		1/31/2022 5:06:1	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.00009849	0.00009849		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	9.99	9.99		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	0.00001713	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	B	mg/L	0.0001205	0.0001205		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.0223	0.0223		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	8.035E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	9.551	9.551		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Molybdenum	B	mg/L	0.0001835	0.0001835		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Potassium	B	mg/L	2.93	2.93		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Silver	B	mg/L	-0.0000525	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Sodium	B	mg/L	31.83	31.83		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thallium	B	mg/L	0.0001194	0.0001194		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.0001932	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.001439	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.002563	0.002563		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.0000247	0.0000247		0	0	0	1.699E-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					
15009814	B22011446-001	ICPMS-6020-W-	SD		1/31/2022 5:12:3	5	163179	1/24/2022 1:	0	2E+07						
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					
15009814	B22011446-001	ICPMS-6020-W-	SD		1/31/2022 5:12:3	5	163179	1/24/2022 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	0.001811	0		0	0	0.01562	0.0193736	0.0159875	1	0%	0	0		
Antimony	A	mg/L	0.00007983	0		0	0	0.0003129	0.0013997	0.0049	0.1	0%	0	0		
Arsenic	A	mg/L	-0.0002063	0		0	0	0.0004665	0.0017061	0.0013383	1	0%	0	0		
Barium	A	mg/L	0.0009597	0.0047985		0	0	0.004786	0.0013411	0.0012039	1	0%	0	0		N
Beryllium	A	mg/L	-0.0001134	0		0	0	0	0.0005353	0.01	1	0%	0	0		
Boron	A	mg/L	0.00787	0		0	0	0.03748	0.1019008	0.07335	1	0%	0	0		
Cadmium	A	mg/L	1.774E-06	0		0	0	0	9.105E-05	0.005	1	0%	0	0		
Calcium	A	mg/L	2.063	10.315		0	0	9.99	0.1864681	0.5517403	50	0%	0	0	3%	
Cerium	A	mg/L	4.477E-06	0		0	0	0	0.0001369	0.001	0.1	0%	0	0		
Chromium	A	mg/L	0.0004752	0		0	0	0.002527	0.0076875	0.0076875	1	0%	0	0		
Cobalt	A	mg/L	0.00002242	0		0	0	0.0001205	0.0004771	0.001	1	0%	0	0		
Copper	A	mg/L	0.0003237	0		0	0	0.0009096	0.0043735	0.0099	1	0%	0	0		
Iron	A	mg/L	0.00437	0		0	0	0.0223	0.0371198	0.02565	5	0%	0	0		
Lanthanum	A	mg/L	1.366E-06	0		0	0	0	0.000275	0.001	0.1	0%	0	0		
Lead	A	mg/L	-1.046E-05	0		0	0	9.849E-05	0.0003858	0.001	1	0%	0	0		
Magnesium	A	mg/L	1.824	9.12		0	0	9.551	0.0521269	0.0407608	50	0%	0	0	5%	
Manganese	A	mg/L	0.0001147	0		0	0	0.0005713	0.0026994	0.0010695	1	0%	0	0		
Molybdenum	A	mg/L	0.00004658	0		0	0	0.0001835	0.0008814	0.001	0.1	0%	0	0		
Nickel	A	mg/L	0.0001016	0		0	0	0.0007024	0.0011441	0.0121000	1	0%	0	0		
Potassium	A	mg/L	0.5047	2.5235		0	0	2.93	0.3828097	0.1306027	50	0%	0	0		N
Selenium	A	mg/L	0.00001863	0		0	0	0.0001995	0.0006787	0.0029274	1	0%	0	0		
Silicon	A	mg/L	4.281	21.405		0	0	22.01	0.2110446	0.026606	0.4	0%	0	0	3%	
Silver	A	mg/L	-6.267E-05	0		0	0	0	0.0002141	0.001	0.04	0%	0	0		
Sodium	A	mg/L	6.299	31.495		0	0	31.83	0.5097304	3.6651346	50	0%	0	0	1%	
Strontium	A	mg/L	0.01507	0.07535		0	0	0.0756	0.0012164	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00004638	0		0	0	0.0001194	0.0005569	0.001	1	0%	0	0		
Thorium	A	mg/L	0.00002547	0		0	0	0	0.0018981	0.02075	1	0%	0	0		
Tin	A	mg/L	0.0003565	0		0	0	0	0.0094659	0.0055874	0.1	0%	0	0		
Titanium	A	mg/L	0.000401	0		0	0	0.002563	0.0028666	0.001	1	0%	0	0		
Uranium	A	mg/L	4.116E-06	0		0	0	0.0000247	8.495E-05	0.0004224	1	0%	0	0		
Vanadium	A	mg/L	-0.0005265	0		0	0	0.02374	0.0195637	0.0105423	1	0%	0	0		
Zinc	A	mg/L	0.004354	0.02177		0	0	0.02033	0.0058087	0.0327721	1	0%	0	0		N
Silica	C	mg/L	9.1579152	45.789576		0	0	0	0.4514666	0.0569155	5	0%	0	0		N
Silicon as SiO2	C	mg/L	9.1579152	45.789576		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					
15009815	B22011446-001	ICPMS-6020-W-	PDS1		1/31/2022 5:18:4	1.03	163179	1/24/2022 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	0.05533	0.0569899		0.0515	0.01562	0	0.003991	0.0032934	1	80%	75	125	0%	
Antimony	A	mg/L	0.04784	0.0492752		0.0515	0.0003129	0	0.0002883	0.0010094	0.1	95%	75	125	0%	
Arsenic	A	mg/L	0.04979	0.0512837		0.0515	0.0004665	0	0.0003514	0.001	1	99%	75	125	0%	
Barium	A	mg/L	0.05464	0.0562792		0.0515	0.004786	0	0.0002763	0.001	1	100%	75	125	0%	
Beryllium	A	mg/L	0.03322	0.0342166		0.0515	0	0	0.0001103	0.01	1	66%	75	125	0%	S
Boron	A	mg/L	0.07187	0.0740261		0.0515	0.03748	0	0.0209916	0.0151101	1	71%	75	125	0%	S
Cadmium	A	mg/L	0.05339	0.0549917		0.0515	0	0	1.876E-05	0.005	1	107%	75	125	0%	
Calcium	A	mg/L	52.55	54.1265		51.5	9.99	0	0.0384124	0.1136585	50	86%	75	125	0%	
Cerium	A	mg/L	0.05172	0.0532716		0.0515	0	0	2.820E-05	0.001	0.1	103%	75	125	0%	
Chromium	A	mg/L	0.04968	0.0511704		0.0515	0.002527	0	0.0015836	0.0015836	1	94%	75	125	0%	
Cobalt	A	mg/L	0.04312	0.0444136		0.0515	0.0001205	0	9.827E-05	0.001	1	86%	75	125	0%	
Copper	A	mg/L	0.05122	0.0527566		0.0515	0.0009096	0	0.0009009	0.0020394	1	101%	75	125	0%	
Iron	A	mg/L	4.825	4.96975		5.15	0.0223	0	0.0076467	0.0052839	5	96%	75	125	0%	
Lanthanum	A	mg/L	0.000011	0		0.0515	0	0	5.665E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.04805	0.0494915		0.0515	9.849E-05	0	7.947E-05	0.001	1	96%	80	120	0%	
Magnesium	A	mg/L	55.99	57.6697		51.5	9.551	0	0.0107381	0.0083967	50	93%	75	125	0%	
Manganese	A	mg/L	0.04844	0.0498932		0.0515	0.0005713	0	0.0005561	0.001	1	96%	75	125	0%	
Molybdenum	A	mg/L	0.04403	0.0453509		0.0515	0.0001835	0	0.0001816	0.001	0.1	88%	75	125	0%	
Nickel	A	mg/L	0.04959	0.0510777		0.0515	0.0007024	0	0.0002357	0.0024926	1	98%	75	125	0%	
Potassium	A	mg/L	45.6	46.968		51.5	2.93	0	0.0788588	0.0269042	50	86%	75	125	0%	
Selenium	A	mg/L	0.04892	0.0503876		0.0515	0.0001995	0	0.0001398	0.001	1	97%	75	125	0%	
Silicon	A	mg/L	20.72	21.3416		0.206	22.01	0	0.0434752	0.0054808	0.4		0	0	0%	A
Silver	A	mg/L	0.01852	0.0190756		0.0206	0	0	4.409E-05	0.001	0.04	93%	75	125	0%	
Sodium	A	mg/L	76.24	78.5272		51.5	31.83	0	0.1050045	0.7550177	50	91%	75	125	0%	
Strontium	A	mg/L	0.124	0.12772		0.0515	0.0756	0	0.0002506	0.001	1	101%	75	125	0%	
Thallium	A	mg/L	0.04726	0.0486778		0.0515	0.0001194	0	0.0001147	0.001	1	94%	75	125	0%	
Thorium	A	mg/L	0.04808	0.0495224		0.0515	0	0	0.000391	0.0042745	1	96%	75	125	0%	
Tin	A	mg/L	0.04874	0.0502022		0.0515	0	0	0.00195	0.001151	0.1	97%	75	125	0%	
Titanium	A	mg/L	0.04804	0.0494812		0.0515	0.002563	0	0.0005905	0.001	1	91%	75	125	0%	
Uranium	A	mg/L	0.05076	0.0522828		0.0515	0.0000247	0	1.75E-05	0.0003	1	101%	75	125	0%	
Vanadium	A	mg/L	0.0645	0.066435		0.0515	0.02374	0	0.0040301	0.0021717	1	83%	75	125	0%	
Zinc	A	mg/L	0.06998	0.0720794		0.0515	0.02033	0	0.0011966	0.0067511	1	100%	75	125	0%	
Silica	C	mg/L	44.324224	45.6539507		0	0	0	0.0930021	0.0117246	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	44.324224	45.6539507		0.0515	0	0	0.0930021	0.0117246	5	88648%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009816	B22011446-001	ICPMS-6020-W- MS4			1/31/2022 5:25:0	1	163179	1/24/2022 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	0.4461	0.4461		0.5	0.01562	0	0.0038747	0.0031975	1	86%	75	125	0%	
Antimony	A	mg/L	0.1044	0.1044		0.1	0.0003129	0	0.0002799	0.001	0.1	104%	75	125	0%	
Arsenic	A	mg/L	0.1027	0.1027		0.1	0.0004665	0	0.0003412	0.001	1	102%	75	125	0%	
Barium	A	mg/L	0.1037	0.1037		0.1	0.004786	0	0.0002682	0.001	1	99%	75	125	0%	
Beryllium	A	mg/L	0.03358	0.03358		0.05	0	0	0.0001071	0.01	1	67%	75	125	0%	S
Boron	A	mg/L	0.11	0.11		0.1	0.03748	0	0.0203802	0.01467	1	73%	75	125	0%	S
Cadmium	A	mg/L	0.05446	0.05446		0.05	0	0	1.821E-05	0.005	1	109%	75	125	0%	
Calcium	A	mg/L	14.22	14.22		5	9.99	0	0.0372936	0.1103481	50	85%	75	125	0%	
Cerium	A	mg/L	0.1071	0.1071		0.1	0	0	2.738E-05	0.001	0.1	107%	75	125	0%	
Chromium	A	mg/L	0.09975	0.09975		0.1	0.002527	0	0.0015375	0.0015375	1	97%	75	125	0%	
Cobalt	A	mg/L	0.0922	0.0922		0.1	0.0001205	0	9.541E-05	0.001	1	92%	75	125	0%	
Copper	A	mg/L	0.1088	0.1088		0.1	0.0009096	0	0.0008747	0.00198	1	108%	75	125	0%	
Iron	A	mg/L	0.5205	0.5205		0.5	0.0223	0	0.007424	0.00513	5	100%	75	125	0%	
Lanthanum	A	mg/L	0.1068	0.1068		0.1	0	0	0.000055	0.001	0.1	107%	75	125	0%	
Lead	A	mg/L	0.1011	0.1011		0.1	9.849E-05	0	7.716E-05	0.001	1	101%	88	115	0%	
Magnesium	A	mg/L	13.83	13.83		5	9.551	0	0.0104254	0.0081522	50	86%	75	125	0%	
Manganese	A	mg/L	0.5045	0.5045		0.5	0.0005713	0	0.0005399	0.001	1	101%	75	125	0%	
Molybdenum	A	mg/L	0.09386	0.09386		0.1	0.0001835	0	0.0001763	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.1017	0.1017		0.1	0.0007024	0	0.0002288	0.0024200	1	101%	75	125	0%	
Potassium	A	mg/L	7.092	7.092		5	2.93	0	0.0765619	0.0261205	50	83%	75	125	0%	
Selenium	A	mg/L	0.1038	0.1038		0.1	0.0001995	0	0.0001357	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	22.53	22.53		1	22.01	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009347	0.009347		0.01	0	0	4.281E-05	0.001	0.04	93%	75	125	0%	
Sodium	A	mg/L	34.89	34.89		5	31.83	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.1865	0.1865		0.1	0.0756	0	0.0002433	0.001	1	111%	75	125	0%	
Thallium	A	mg/L	0.09734	0.09734		0.1	0.0001194	0	0.0001114	0.001	1	97%	75	125	0%	
Thorium	A	mg/L	0.1029	0.1029		0.1	0	0	0.0003796	0.00415	1	103%	75	125	0%	
Tin	A	mg/L	0.1008	0.1008		0.1	0	0	0.0018932	0.0011175	0.1	101%	75	125	0%	
Titanium	A	mg/L	0.08876	0.08876		0.1	0.002563	0	0.0005733	0.001	1	86%	75	125	0%	
Uranium	A	mg/L	0.1037	0.1037		0.1	0.0000247	0	1.699E-05	0.0003	1	104%	75	125	0%	
Vanadium	A	mg/L	0.1149	0.1149		0.1	0.02374	0	0.0039127	0.0021085	1	91%	75	125	0%	
Zinc	A	mg/L	0.1244	0.1244		0.1	0.02033	0	0.0011617	0.0065544	1	104%	75	125	0%	
Silica	C	mg/L	48.196176	48.196176		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	48.196176	48.196176		2.14	0	0	0.0902933	0.0113831	5	2252%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009817	B22011446-001	ICPMS-6020-W-	MSD4		1/31/2022 5:31:1	1	163179	1/24/2022 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	0.4373	0.4373		0.5	0.01562	0.4461	0.0038747	0.0031975	1	84%	75	125	2%	
Antimony	A	mg/L	0.1066	0.1066		0.1	0.0003129	0.1044	0.0002799	0.001	0.1	106%	75	125	2%	
Arsenic	A	mg/L	0.1029	0.1029		0.1	0.0004665	0.1027	0.0003412	0.001	1	102%	75	125	0%	
Barium	A	mg/L	0.1039	0.1039		0.1	0.004786	0.1037	0.0002682	0.001	1	99%	75	125	0%	
Beryllium	A	mg/L	0.03294	0.03294		0.05	0	0.03358	0.0001071	0.01	1	66%	75	125	2%	S
Boron	A	mg/L	0.1093	0.1093		0.1	0.03748	0.11	0.0203802	0.01467	1	72%	75	125	1%	S
Cadmium	A	mg/L	0.0552	0.0552		0.05	0	0.05446	1.821E-05	0.005	1	110%	75	125	1%	
Calcium	A	mg/L	13.97	13.97		5	9.99	14.22	0.0372936	0.1103481	50	80%	75	125	2%	
Cerium	A	mg/L	0.1077	0.1077		0.1	0	0.1071	2.738E-05	0.001	0.1	108%	75	125	1%	
Chromium	A	mg/L	0.1009	0.1009		0.1	0.002527	0.09975	0.0015375	0.0015375	1	98%	75	125	1%	
Cobalt	A	mg/L	0.09462	0.09462		0.1	0.0001205	0.0922	9.541E-05	0.001	1	94%	75	125	3%	
Copper	A	mg/L	0.109	0.109		0.1	0.0009096	0.1088	0.0008747	0.00198	1	108%	75	125	0%	
Iron	A	mg/L	0.5235	0.5235		0.5	0.0223	0.5205	0.007424	0.00513	5	100%	75	125	1%	
Lanthanum	A	mg/L	0.1082	0.1082		0.1	0	0.1068	0.000055	0.001	0.1	108%	75	125	1%	
Lead	A	mg/L	0.1031	0.1031		0.1	9.849E-05	0.1011	7.716E-05	0.001	1	103%	88	115	2%	
Magnesium	A	mg/L	14.01	14.01		5	9.551	13.83	0.0104254	0.0081522	50	89%	75	125	1%	
Manganese	A	mg/L	0.5036	0.5036		0.5	0.0005713	0.5045	0.0005399	0.001	1	101%	75	125	0%	
Molybdenum	A	mg/L	0.09564	0.09564		0.1	0.0001835	0.09386	0.0001763	0.001	0.1	95%	75	125	2%	
Nickel	A	mg/L	0.1038	0.1038		0.1	0.0007024	0.1017	0.0002288	0.0024200	1	103%	75	125	2%	
Potassium	A	mg/L	7.107	7.107		5	2.93	7.092	0.0765619	0.0261205	50	84%	75	125	0%	
Selenium	A	mg/L	0.1027	0.1027		0.1	0.0001995	0.1038	0.0001357	0.001	1	103%	75	125	1%	
Silicon	A	mg/L	22.08	22.08		1	22.01	22.53	0.0422089	0.0053212	0.4		75	125	2%	A
Silver	A	mg/L	0.0097	0.0097		0.01	0	0.009347	4.281E-05	0.001	0.04	97%	75	125	4%	
Sodium	A	mg/L	35.07	35.07		5	31.83	34.89	0.1019461	0.7330269	50		75	125	1%	A
Strontium	A	mg/L	0.1853	0.1853		0.1	0.0756	0.1865	0.0002433	0.001	1	110%	75	125	1%	
Thallium	A	mg/L	0.09843	0.09843		0.1	0.0001194	0.09734	0.0001114	0.001	1	98%	75	125	1%	
Thorium	A	mg/L	0.1023	0.1023		0.1	0	0.1029	0.0003796	0.00415	1	102%	75	125	1%	
Tin	A	mg/L	0.1016	0.1016		0.1	0	0.1008	0.0018932	0.0011175	0.1	102%	75	125	1%	
Titanium	A	mg/L	0.09045	0.09045		0.1	0.002563	0.08876	0.0005733	0.001	1	88%	75	125	2%	
Uranium	A	mg/L	0.1071	0.1071		0.1	0.0000247	0.1037	1.699E-05	0.0003	1	107%	75	125	3%	
Vanadium	A	mg/L	0.1131	0.1131		0.1	0.02374	0.1149	0.0039127	0.0021085	1	89%	75	125	2%	
Zinc	A	mg/L	0.1264	0.1264		0.1	0.02033	0.1244	0.0011617	0.0065544	1	106%	75	125	2%	
Silica	C	mg/L	47.233536	47.233536		0	0	48.196176	0.0902933	0.0113831	5	0%	0	0	2%	
Silicon as SiO2	C	mg/L	47.233536	47.233536		2.14	0	48.196176	0.0902933	0.0113831	5	2207%	75	125	2%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009818	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 5:37:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	1.772E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	A	mg/L	-4.028E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-7.008E-05	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	6.644E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001796	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	0.003515	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	2.055E-07	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0001699	0.0001699		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001098	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-3.395E-05	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.358E-06	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	-0.002389	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-0.0004804	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0004804	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	0.0000135	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009819	B22011446-006	ICPMS-6020-W-	SAMP		1/31/2022 5:43:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-0.0001306	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	14.29	14.29		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	5.827E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	B	mg/L	8.602E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.01297	0.01297		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.01297	0.01297		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	14.05	14.05		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Mercury	B	mg/L	0.00001337	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.01421	0.01421		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Potassium	B	mg/L	3.426	3.426		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Silver	B	mg/L	-6.335E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	42.68	42.68		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00006187	0.00006187		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.00002445	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.0002124	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009819	B22011446-006	ICPMS-6020-W-	SAMP		1/31/2022 5:43:4	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Titanium	B	mg/L	0.0004152	0.0004152		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	B	mg/L	9.128E-06	0		0	0	0	0.000052	0.0003	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					
15009820	B22011446-006	ICPMS-6020-W-	SAMP		1/31/2022 5:49:5	1	163179	1/24/2022 1:		0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	5.626E-06	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	15.71	15.71		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	9.589E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	B	mg/L	0.0001452	0.0001452		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.1016	0.1016		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	1.644E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	14.11	14.11		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Molybdenum	B	mg/L	0.01481	0.01481		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Potassium	B	mg/L	3.328	3.328		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Silver	B	mg/L	-6.116E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Sodium	B	mg/L	44.27	44.27		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thallium	B	mg/L	0.0001239	0.0001239		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.0002255	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0007566	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.0006443	0.0006443		0	0	0	0.0005733	0.001	1	0%	0	0	0%	J
Uranium	B	mg/L	0.00001074	0		0	0	0	1.699E-05	0.0003	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					
15009821	B22011446-011	ICPMS-6020-W-	SAMP		1/31/2022 5:56:1	1	R373996			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-0.0001122	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	21.31	21.31		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	2.181E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	B	mg/L	0.0002288	0.0002288		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.03138	0.03138		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.03138	0.03138		0	0	0	0.00119	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					
15009821	B22011446-011	ICPMS-6020-W-	SAMP		1/31/2022 5:56:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	B	mg/L	21.55	21.55		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Mercury	B	mg/L	6.904E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.0002299	0.0002299		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Potassium	B	mg/L	2.237	2.237		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Silver	B	mg/L	-6.241E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	B	mg/L	0.00003482	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	B	mg/L	9.698E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.0002115	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.001209	0.001209		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00002834	0		0	0	0	0.000052	0.0003	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					
15009822	B22011446-011	ICPMS-6020-W-	SAMP		1/31/2022 6:02:2	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.0003254	0.0003254		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	20.41	20.41		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	0.00004588	0.00004588		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	B	mg/L	0.0003855	0.0003855		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.1405	0.1405		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	0.00002981	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	21.58	21.58		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Molybdenum	B	mg/L	0.000324	0.000324		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Potassium	B	mg/L	2.153	2.153		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Silver	B	mg/L	-6.246E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	B	mg/L	0.0001115	0.0001115		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.0001139	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.000751	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.003229	0.003229		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00003269	0.00003269		0	0	0	1.699E-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					
15009823	B22011446-017	ICPMS-6020-W-	SAMP		1/31/2022 6:08:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-0.0001084	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	19.82	19.82		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	6.618E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Cobalt	B	mg/L	0.00004877	0.00004877		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.01208	0.01208		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.01208	0.01208		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	19.64	19.64		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Mercury	B	mg/L	5.756E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.0002089	0.0002089		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Potassium	B	mg/L	2.236	2.236		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Silver	B	mg/L	-6.231E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	49.53	49.53		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00002449	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	B	mg/L	3.372E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.000228	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.001186	0.001186		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00002843	0		0	0	0	0.000052	0.0003	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					
15009824	CCV	ICPMS-6020-W-	CCV		1/31/2022 6:14:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04408	0.04408		0.05	0	0	0.00086	0.001	1	88%	90	110	0%	S
Antimony	A	mg/L	0.0536	0.0536		0.05	0	0	0.00042	0.001	0.1	107%	90	110	0%	
Arsenic	A	mg/L	0.05467	0.05467		0.05	0	0	0.00095	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05576	0.05576		0.05	0	0	0.000042	0.001	1	112%	90	110	0%	S
Beryllium	A	mg/L	0.03928	0.03928		0.05	0	0	0.00012	0.001	1	79%	90	110	0%	S
Boron	A	mg/L	0.04461	0.04461		0.05	0	0	0.00561	0.00561	1	89%	90	110	0%	S
Cadmium	A	mg/L	0.0543	0.0543		0.05	0	0	0.000025	0.001	1	109%	90	110	0%	
Calcium	A	mg/L	11.85	11.85		12.5	0	0	0.02092	0.02092	50	95%	90	110	0%	
Cerium	A	mg/L	0.05183	0.05183		0.05	0	0	0.000012	0.001	0.1	104%	90	110	0%	
Chromium	A	mg/L	0.05333	0.05333		0.05	0	0	0.00018	0.001	1	107%	90	110	0%	
Cobalt	A	mg/L	0.05151	0.05151		0.05	0	0	0.000042	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05437	0.05437		0.05	0	0	0.00035	0.001	1	109%	90	110	0%	
Iron	A	mg/L	1.342	1.342		1.3	0	0	0.00119	0.00119	5	103%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009824	CCV	ICPMS-6020-W-	CCV		1/31/2022 6:14:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lanthanum	A	mg/L	0.05273	0.05273		0.05	0	0	0.000011	0.001	0.1	105%	90	110	0%	
Lead	A	mg/L	0.05226	0.05226		0.05	0	0	0.000056	0.001	1	105%	90	110	0%	
Magnesium	A	mg/L	12.33	12.33		12.5	0	0	0.00564	0.00564	50	99%	90	110	0%	
Manganese	A	mg/L	0.05496	0.05496		0.05	0	0	0.000095	0.001	1	110%	90	110	0%	
Mercury	A	mg/L	0.0009729	0.0009729		0.001	0	0	0.00016	0.001	0.002	97%	90	110	0%	
Molybdenum	A	mg/L	0.04938	0.04938		0.05	0	0	0.00005	0.001	0.1	99%	90	110	0%	
Nickel	A	mg/L	0.05432	0.05432		0.05	0	0	0.00052	0.001	1	109%	90	110	0%	
Potassium	A	mg/L	11.27	11.27		12.5	0	0	0.08139	0.08139	50	90%	90	110	0%	
Selenium	A	mg/L	0.05722	0.05722		0.05	0	0	0.00033	0.001	1	114%	90	110	0%	S
Silicon	A	mg/L	0.2103	0.2103		0.2	0	0	0.01223	0.1	0.4	105%	90	110	0%	
Silver	A	mg/L	0.02045	0.02045		0.02	0	0	0.00002	0.001	0.04	102%	90	110	0%	
Sodium	A	mg/L	12.6	12.6		12.5	0	0	0.02171	0.02171	50	101%	90	110	0%	
Strontium	A	mg/L	0.05788	0.05788		0.05	0	0	0.00014	0.001	1	116%	90	110	0%	S
Thallium	A	mg/L	0.05241	0.05241		0.05	0	0	0.000041	0.001	1	105%	90	110	0%	
Thorium	A	mg/L	0.05178	0.05178		0.05	0	0	0.00061	0.001	1	104%	90	110	0%	
Tin	A	mg/L	0.04994	0.04994		0.05	0	0	0.00132	0.00132	0.1	100%	90	110	0%	
Titanium	A	mg/L	0.04868	0.04868		0.05	0	0	0.000094	0.001	1	97%	90	110	0%	
Uranium	A	mg/L	0.05441	0.05441		0.05	0	0	0.000052	0.0003	1	109%	90	110	0%	
Vanadium	A	mg/L	0.04411	0.04411		0.05	0	0	0.0013	0.0013	1	88%	90	110	0%	S
Zinc	A	mg/L	0.05753	0.05753		0.05	0	0	0.00273	0.00273	1	115%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.342	1.342		0	0	0	0.00119	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					
15009825	CCB	ICPMS-6020-W-	CCB		1/31/2022 6:21:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.00266	-0.00266		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00007422	0.00007422		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004004	-0.0004004		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-2.527E-07	-2.527E-07		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.0001154	-0.0001154		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.00198	0.00198		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00001538	0.00001538		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.004221	-0.004221		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	9.829E-07	9.829E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009825	CCB	ICPMS-6020-W-	CCB		1/31/2022 6:21:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.00001489	0.00001489		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-4.892E-06	-4.892E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	6.052E-06	6.052E-06		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	-0.0006084	-0.0006084		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-4.359E-07	-4.359E-07		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-0.0001303	-0.0001303		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.01525	0.01525		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-1.692E-05	-1.692E-05		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.0000112	0.0000112		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002208	0.00002208		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-5.645E-05	-5.645E-05		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.1106	-0.1106		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-0.0000159	-0.0000159		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.0001335	0.0001335		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	1.335E-06	1.335E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.07898	0.07898		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	0.00001102	0.00001102		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001309	0.0001309		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00007818	0.00007818		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-0.0000539	-0.0000539		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-5.826E-05	-5.826E-05		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.871E-06	3.871E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.008981	-0.008981		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-2.855E-05	-2.855E-05		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0006084	-0.0006084		0	0	0	0.00119	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					
15009826	B22011446-017	ICPMS-6020-W-	SAMP		1/31/2022 6:27:2	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	9.745E-06	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.01632	0.01632		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Calcium	B	mg/L	18.91	18.91		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	4.083E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Chromium	B	mg/L	0.001282	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009826	B22011446-017	ICPMS-6020-W-	SAMP		1/31/2022 6:27:2	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cobalt	B	mg/L	0.00015	0.00015		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.02481	0.02481		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	1.659E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	19.21	19.21		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Molybdenum	B	mg/L	0.0003525	0.0003525		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	B	mg/L	-6.391E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Sodium	B	mg/L	47.92	47.92		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thallium	B	mg/L	0.0001343	0.0001343		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Thorium	B	mg/L	0.0001736	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0007301	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.001256	0.001256		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00003091	0.00003091		0	0	0	1.699E-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					
15009827	B22011446-022	ICPMS-6020-W-	SAMP		1/31/2022 6:33:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.00003066	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Cadmium	B	mg/L	0.0001164	0.0001164		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	42.75	42.75		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	0.00003078	0.00003078		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	J
Chromium	B	mg/L	0.0002946	0.0002946		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	B	mg/L	0.0008246	0.0008246		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.05211	0.05211		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.05211	0.05211		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	40.9	40.9		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.1442	0.1442		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	B	mg/L	0.00001406	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.0005311	0.0005311		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	B	mg/L	-5.782E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	B	mg/L	0.00003375	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	B	mg/L	0.00001684	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.000225	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.001316	0.001316		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00007085	0.00007085		0	0	0	0.000052	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					
15009827	B22011446-022	ICPMS-6020-W-	SAMP		1/31/2022 6:33:3	1	R373996		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					
15009828	B22011446-022	ICPMS-6020-W-	SAMP		1/31/2022 6:39:4	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Lead	A	mg/L	0.0004171	0.0004171		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	41.75	41.75		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	0.00005641	0.00005641		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Chromium	B	mg/L	0.0006986	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Cobalt	B	mg/L	0.0008969	0.0008969		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.09527	0.09527		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	0.00002259	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	40.85	40.85		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Manganese	B	mg/L	0.1426	0.1426		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	B	mg/L	0.0006483	0.0006483		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	B	mg/L	-5.779E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	B	mg/L	0.00009021	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Thorium	B	mg/L	0.00008994	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0006106	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.00292	0.00292		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00007914	0.00007914		0	0	0	1.699E-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					
15009829	B22011446-027	ICPMS-6020-W-	SAMP		1/31/2022 6:46:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Lead	A	mg/L	-0.0001329	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Cadmium	B	mg/L	0.000044	0.000044		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	16.02	16.02		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	2.189E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	B	mg/L	0.0007682	0.0007682		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	B	mg/L	0.00002862	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	-0.0004297	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0004297	0		0	0	0	0.00119	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					
15009829	B22011446-027	ICPMS-6020-W-	SAMP		1/31/2022 6:46:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	B	mg/L	17.09	17.09		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.007534	0.007534		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	B	mg/L	5.789E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.0003802	0.0003802		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	B	mg/L	-6.005E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	35.99	35.99		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00001704	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	B	mg/L	-6.687E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.0002434	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.001441	0.001441		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00001156	0		0	0	0	0.000052	0.0003	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					
15009830	B22011446-027	ICPMS-6020-W-	SAMP		1/31/2022 6:52:1	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-2.515E-05	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	15.32	15.32		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	0.00009261	0.00009261		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Chromium	B	mg/L	0.001335	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Cobalt	B	mg/L	0.0002472	0.0002472		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.1115	0.1115		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	0.00003525	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	16.43	16.43		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Manganese	B	mg/L	0.01937	0.01937		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	B	mg/L	0.0004527	0.0004527		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	B	mg/L	-5.421E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Sodium	B	mg/L	36.28	36.28		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00007826	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Thorium	B	mg/L	0.00005599	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.000664	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.008373	0.008373		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	0.00001285	0		0	0	0	1.699E-05	0.0003	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					
15009831	B22011446-032	ICPMS-6020-W-	SAMP		1/31/2022 6:58:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-0.0001282	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Cadmium	B	mg/L	0.0000392	0.0000392		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	16.43	16.43		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Cerium	B	mg/L	1.587E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	B	mg/L	-0.0000431	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	B	mg/L	0.0001514	0.0001514		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.09831	0.09831		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.09831	0.09831		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	17.57	17.57		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.3633	0.3633		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	B	mg/L	0.00004618	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	B	mg/L	0.005865	0.005865		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silver	B	mg/L	-6.221E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	38.62	38.62		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Thallium	B	mg/L	9.192E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	B	mg/L	-1.348E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.000235	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	B	mg/L	0.0011	0.0011		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	6.724E-06	0		0	0	0	0.000052	0.0003	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					
15009832	B22011446-032	ICPMS-6020-W-	SAMP		1/31/2022 7:04:4	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	-3.347E-05	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Calcium	B	mg/L	15.83	15.83		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Cerium	B	mg/L	7.172E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Chromium	B	mg/L	0.0003233	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Cobalt	B	mg/L	0.0002415	0.0002415		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.1211	0.1211		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Lanthanum	B	mg/L	1.735E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Magnesium	B	mg/L	17.29	17.29		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Manganese	B	mg/L	0.3725	0.3725		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	B	mg/L	0.006585	0.006585		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Silver	B	mg/L	-6.462E-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					
15009832	B22011446-032	ICPMS-6020-W-	SAMP		1/31/2022 7:04:4	1	163179	1/24/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Sodium	B	mg/L	38.14	38.14		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thallium	B	mg/L	0.00006884	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Thorium	B	mg/L	0.00004248	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0006369	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Titanium	B	mg/L	0.00128	0.00128		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	B	mg/L	7.186E-06	0		0	0	0	1.699E-05	0.0003	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					
15009833	B22011592-001	ICPMS-6020-W-	SAMP		1/31/2022 7:10:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00004271	0.00004271		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	7.76E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.001301	0.001301		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00001533	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0001415	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.006314	0.006314		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	4.568E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002081	0.0002081		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-6.247E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	2.668E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	-0.0000014	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00002528	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	16.96	16.96		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Magnesium	B	mg/L	16.68	16.68		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	43.54	43.54		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0002419	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009834	B22011592-001	ICPMS-6020-W-	SAMP		1/31/2022 7:17:1	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	5.476E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0001275	0.0001275		0	0	0	9.541E-05	0.001	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					
15009834	B22011592-001	ICPMS-6020-W-	SAMP		1/31/2022 7:17:1	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lanthanum	A	mg/L	2.858E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	-1.373E-05	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.01391	0.01391		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002942	0.0002942		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-6.215E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.00008423	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.00122	0.00122		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00002703	0.00002703		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	16.08	16.08		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001732	0.001732		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UD
Iron	B	mg/L	0.01937	0.01937		0	0	0	0.007424	0.00513	5	0%	0	0	0%	UD
Magnesium	B	mg/L	15.97	15.97		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	43.97	43.97		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00003708	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0006823	0		0	0	0	0.0018932	0.0011175	0.1	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					
15009835	B22011592-001	ICPMS-6020-W-	SD		1/31/2022 7:23:2	5	163290	1/27/2022 8:	0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.000789	0		0	0	0	0.0193736	0.0159875	1	0%	0	0		
Antimony	A	mg/L	0.00001058	0		0	0	0	0.0013997	0.0049	0.1	0%	0	0		
Arsenic	A	mg/L	-0.0003863	0		0	0	0	0.0017061	0.0013383	1	0%	0	0		
Barium	A	mg/L	0.001615	0.008075		0	0	0.007753	0.0013411	0.0012039	1	0%	0	0		N
Beryllium	A	mg/L	-0.0001286	0		0	0	0	0.0005353	0.01	1	0%	0	0		
Boron	A	mg/L	0.01464	0		0	0	0.06388	0.1019008	0.07335	1	0%	0	0		
Cadmium	A	mg/L	5.181E-06	0		0	0	0	9.105E-05	0.005	1	0%	0	0		
Calcium	A	mg/L	3.3	16.5		0	0	16.08	0.1864681	0.5517403	50	0%	0	0	3%	
Cerium	A	mg/L	3.351E-06	0		0	0	0	0.0001369	0.001	0.1	0%	0	0		
Chromium	A	mg/L	0.000351	0		0	0	0.001732	0.0076875	0.0076875	1	0%	0	0		
Cobalt	A	mg/L	0.00002618	0		0	0	0.0001275	0.0004771	0.001	1	0%	0	0		
Copper	A	mg/L	0.000413	0		0	0	0.001067	0.0043735	0.0099	1	0%	0	0		
Iron	A	mg/L	0.004172	0		0	0	0.01937	0.0371198	0.02565	5	0%	0	0		
Lanthanum	A	mg/L	0.00000113	0		0	0	0	0.000275	0.001	0.1	0%	0	0		
Lead	A	mg/L	-5.416E-05	0		0	0	0	0.0003858	0.001	1	0%	0	0		

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009835	B22011592-001	ICPMS-6020-W-	SD		1/31/2022 7:23:2	5	163290	1/27/2022 8:	0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	3.38	16.9		0	0	15.97	0.0521269	0.0407608	50	0%	0	0	6%	
Manganese	A	mg/L	0.002875	0.014375		0	0	0.01391	0.0026994	0.0010695	1	0%	0	0		N
Molybdenum	A	mg/L	0.00006895	0		0	0	0.0002942	0.0008814	0.001	0.1	0%	0	0		
Nickel	A	mg/L	0.0003373	0.0016865		0	0	0.001088	0.0011441	0.0121000	1	0%	0	0		N
Potassium	A	mg/L	0.2577	1.2885		0	0	1.789	0.3828097	0.1306027	50	0%	0	0		N
Selenium	A	mg/L	0.00006711	0		0	0	0.0005451	0.0006787	0.0029274	1	0%	0	0		
Silicon	A	mg/L	4.033	20.165		0	0	20.5	0.2110446	0.026606	0.4	0%	0	0	2%	
Silver	A	mg/L	-6.458E-05	0		0	0	0	0.0002141	0.001	0.04	0%	0	0		
Sodium	A	mg/L	9.168	45.84		0	0	43.97	0.5097304	3.6651346	50	0%	0	0	4%	
Strontium	A	mg/L	0.02839	0.14195		0	0	0.1417	0.0012164	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003485	0		0	0	0	0.0005569	0.001	1	0%	0	0		
Thorium	A	mg/L	3.365E-06	0		0	0	0	0.0018981	0.02075	1	0%	0	0		
Tin	A	mg/L	0.0001831	0		0	0	0	0.0094659	0.0055874	0.1	0%	0	0		
Titanium	A	mg/L	0.0001503	0		0	0	0.00122	0.0028666	0.001	1	0%	0	0		
Uranium	A	mg/L	5.727E-06	0		0	0	2.703E-05	8.495E-05	0.0004224	1	0%	0	0		
Vanadium	A	mg/L	-0.00705	0		0	0	0.00786	0.0195637	0.0105423	1	0%	0	0		
Zinc	A	mg/L	0.002563	0.012815		0	0	0.003658	0.0058087	0.0327721	1	0%	0	0		N
Silica	C	mg/L	8.6273936	43.136968		0	0	0	0.4514666	0.0569155	5	0%	0	0		N
Silicon as SiO2	C	mg/L	8.6273936	43.136968		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					
15009836	CCV	ICPMS-6020-W-	CCV		1/31/2022 7:29:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04224	0.04224		0.05	0	0	0.00086	0.001	1	84%	90	110	0%	S
Antimony	A	mg/L	0.05352	0.05352		0.05	0	0	0.00042	0.001	0.1	107%	90	110	0%	
Arsenic	A	mg/L	0.05651	0.05651		0.05	0	0	0.00019	0.001	1	113%	90	110	0%	S
Barium	A	mg/L	0.05573	0.05573		0.05	0	0	0.000042	0.001	1	111%	90	110	0%	S
Beryllium	A	mg/L	0.03446	0.03446		0.05	0	0	0.00012	0.001	1	69%	90	110	0%	S
Boron	A	mg/L	0.03893	0.03893		0.05	0	0	0.00561	0.00561	1	78%	90	110	0%	S
Cadmium	A	mg/L	0.05414	0.05414		0.05	0	0	0.000025	0.001	1	108%	90	110	0%	
Calcium	A	mg/L	11.31	11.31		12.5	0	0	0.02092	0.02092	50	90%	90	110	0%	
Cerium	A	mg/L	0.05433	0.05433		0.05	0	0	0.000012	0.001	0.1	109%	90	110	0%	
Chromium	A	mg/L	0.0528	0.0528		0.05	0	0	0.00018	0.001	1	106%	90	110	0%	
Cobalt	A	mg/L	0.05023	0.05023		0.05	0	0	0.000042	0.001	1	100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009836	CCV	ICPMS-6020-W-	CCV		1/31/2022 7:29:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.05486	0.05486		0.05	0	0	0.00028	0.001	1	110%	90	110	0%	
Iron	A	mg/L	1.32	1.32		1.3	0	0	0.00119	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.0537	0.0537		0.05	0	0	0.000011	0.001	0.1	107%	90	110	0%	
Lead	A	mg/L	0.05164	0.05164		0.05	0	0	0.000056	0.001	1	103%	90	110	0%	
Magnesium	A	mg/L	12.17	12.17		12.5	0	0	0.00564	0.00564	50	97%	90	110	0%	
Manganese	A	mg/L	0.05395	0.05395		0.05	0	0	0.000095	0.001	1	108%	90	110	0%	
Mercury	A	mg/L	0.0009929	0.0009929		0.001	0	0	0.00016	0.001	0.002	99%	90	110	0%	
Molybdenum	A	mg/L	0.04813	0.04813		0.05	0	0	0.00005	0.001	0.1	96%	90	110	0%	
Nickel	A	mg/L	0.05115	0.05115		0.05	0	0	0.00052	0.001	1	102%	90	110	0%	
Potassium	A	mg/L	10.64	10.64		12.5	0	0	0.08139	0.08139	50	85%	90	110	0%	S
Selenium	A	mg/L	0.05719	0.05719		0.05	0	0	0.00033	0.001	1	114%	90	110	0%	S
Silicon	A	mg/L	0.2059	0.2059		0.2	0	0	0.01223	0.1	0.4	103%	90	110	0%	
Silver	A	mg/L	0.02017	0.02017		0.02	0	0	0.00002	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.55	12.55		12.5	0	0	0.02171	0.02171	50	100%	90	110	0%	
Strontium	A	mg/L	0.05899	0.05899		0.05	0	0	0.00014	0.001	1	118%	90	110	0%	S
Thallium	A	mg/L	0.05156	0.05156		0.05	0	0	0.000041	0.001	1	103%	90	110	0%	
Thorium	A	mg/L	0.05224	0.05224		0.05	0	0	0.00061	0.001	1	104%	90	110	0%	
Tin	A	mg/L	0.0498	0.0498		0.05	0	0	0.00132	0.00132	0.1	100%	90	110	0%	
Titanium	A	mg/L	0.04527	0.04527		0.05	0	0	0.000094	0.001	1	91%	90	110	0%	
Uranium	A	mg/L	0.05486	0.05486		0.05	0	0	0.000052	0.0003	1	110%	90	110	0%	
Vanadium	A	mg/L	0.04203	0.04203		0.05	0	0	0.0013	0.0013	1	84%	90	110	0%	S
Zinc	A	mg/L	0.06006	0.06006		0.05	0	0	0.00273	0.00273	1	120%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.32	1.32		0	0	0	0.00119	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					
15009837	CCB	ICPMS-6020-W-	CCB		1/31/2022 7:35:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002416	-0.002416		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00006733	0.00006733		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004035	-0.0004035		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-1.879E-06	-1.879E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.0001181	-0.0001181		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001967	0.001967		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	5.227E-06	5.227E-06		0	0	0	0.000025	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					
15009837	CCB	ICPMS-6020-W-	CCB		1/31/2022 7:35:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	-0.005636	-0.005636		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	1.73E-07	1.73E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0000261	0.0000261		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-1.818E-05	-1.818E-05		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00001245	0.00001245		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.002632	0.002632		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-2.856E-07	-2.856E-07		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-0.0001482	-0.0001482		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.01132	0.01132		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-1.794E-05	-1.794E-05		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001012	0.00001012		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002033	0.00002033		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-5.383E-05	-5.383E-05		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.1368	-0.1368		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-1.018E-05	-1.018E-05		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.0000253	0.0000253		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	3.457E-06	3.457E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.1068	0.1068		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	6.706E-06	6.706E-06		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001516	0.0001516		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00007489	0.00007489		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-6.602E-05	-6.602E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-9.813E-05	-9.813E-05		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.526E-06	3.526E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.009514	-0.009514		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-2.482E-05	-2.482E-05		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.002632	0.002632		0	0	0	0.00119	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					
15009838	B22011592-001	ICPMS-6020-W-	PDS1		1/31/2022 7:42:0	5	163290	1/27/2022 8:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.03905	0.19525		0.25	0	0	0.0193736	0.0159875	1	78%	75	125	0%	
Antimony	A	mg/L	0.04992	0.2496		0.25	0	0	0.0013997	0.0049	0.1	100%	75	125	0%	
Arsenic	A	mg/L	0.04945	0.24725		0.25	0	0	0.0017061	0.0013383	1	99%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009838	B22011592-001	ICPMS-6020-W-	PDS1		1/31/2022 7:42:0	5	163290	1/27/2022 8:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.05937	0.29685		0.25	0.007753	0	0.0013411	0.0012039	1	116%	75	125	0%	
Beryllium	A	mg/L	0.03128	0.1564		0.25	0	0	0.0005353	0.01	1	63%	75	125	0%	S
Boron	A	mg/L	0.1033	0.5165		0.25	0.06388	0	0.1019008	0.07335	1	181%	75	125	0%	S
Cadmium	A	mg/L	0.05439	0.27195		0.25	0	0	9.105E-05	0.005	1	109%	75	125	0%	
Calcium	A	mg/L	55.99	279.95		250	16.08	0	0.1864681	0.5517403	50	106%	75	125	0%	
Cerium	A	mg/L	0.05306	0.2653		0.25	0	0	0.0001369	0.001	0.1	106%	75	125	0%	
Chromium	A	mg/L	0.04728	0.2364		0.25	0.001732	0	0.0076875	0.0076875	1	94%	75	125	0%	
Cobalt	A	mg/L	0.04272	0.2136		0.25	0.0001275	0	0.0004771	0.001	1	85%	75	125	0%	
Copper	A	mg/L	0.05085	0.25425		0.25	0.001067	0	0.0043735	0.0099	1	101%	75	125	0%	
Iron	A	mg/L	4.762	23.81		25	0.01937	0	0.0371198	0.02565	5	95%	75	125	0%	
Lanthanum	A	mg/L	0.00000553	0		0.25	0	0	0.000275	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.04793	0.23965		0.25	0	0	0.0003858	0.001	1	96%	80	120	0%	
Magnesium	A	mg/L	62.39	311.95		250	15.97	0	0.0521269	0.0407608	50	118%	75	125	0%	
Manganese	A	mg/L	0.05891	0.29455		0.25	0.01391	0	0.0026994	0.0010695	1	112%	75	125	0%	
Molybdenum	A	mg/L	0.04596	0.2298		0.25	0.0002942	0	0.0008814	0.001	0.1	92%	75	125	0%	
Nickel	A	mg/L	0.04903	0.24515		0.25	0.001088	0	0.0011441	0.0121000	1	98%	75	125	0%	
Potassium	A	mg/L	41.05	205.25		250	1.789	0	0.3828097	0.1306027	50	81%	75	125	0%	
Selenium	A	mg/L	0.04921	0.24605		0.25	0.0005451	0	0.0006787	0.0029274	1	98%	75	125	0%	
Silicon	A	mg/L	19.46	97.3		1	20.5	0	0.2110446	0.026606	0.4		0	0	0%	A
Silver	A	mg/L	0.01896	0.0948		0.1	0	0	0.0002141	0.001	0.04	95%	75	125	0%	
Sodium	A	mg/L	90.03	450.15		250	43.97	0	0.5097304	3.6651346	50	162%	75	125	0%	S
Strontium	A	mg/L	0.1834	0.917		0.25	0.1417	0	0.0012164	0.001	1	310%	75	125	0%	S
Thallium	A	mg/L	0.04723	0.23615		0.25	0	0	0.0005569	0.001	1	94%	75	125	0%	
Thorium	A	mg/L	0.04907	0.24535		0.25	0	0	0.0018981	0.02075	1	98%	75	125	0%	
Tin	A	mg/L	0.0492	0.246		0.25	0	0	0.0094659	0.0055874	0.1	98%	75	125	0%	
Titanium	A	mg/L	0.04258	0.2129		0.25	0.00122	0	0.0028666	0.001	1	85%	75	125	0%	
Uranium	A	mg/L	0.05136	0.2568		0.25	2.703E-05	0	8.495E-05	0.0004224	1	103%	75	125	0%	
Vanadium	A	mg/L	0.05888	0.2944		0.25	0.00786	0	0.0195637	0.0105423	1	115%	75	125	0%	
Zinc	A	mg/L	0.05203	0.26015		0.25	0.003658	0	0.0058087	0.0327721	1	103%	75	125	0%	
Silica	C	mg/L	41.628832	208.14416		0	0	0	0.4514666	0.0569155	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	41.628832	208.14416		0.25	0	0	0.4514666	0.0569155	5	83258%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009839	B22011592-001	ICPMS-6020-W- MS4			1/31/2022 7:48:2	1	163290	1/27/2022 8:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.4145	0.4145		0.5	0	0	0.0038747	0.0031975	1	83%	75	125	0%	
Antimony	A	mg/L	0.1074	0.1074		0.1	0	0	0.0002799	0.001	0.1	107%	75	125	0%	
Arsenic	A	mg/L	0.1022	0.1022		0.1	0	0	0.0003412	0.001	1	102%	75	125	0%	
Barium	A	mg/L	0.1089	0.1089		0.1	0.007753	0	0.0002682	0.001	1	101%	75	125	0%	
Beryllium	A	mg/L	0.03301	0.03301		0.05	0	0	0.0001071	0.01	1	66%	75	125	0%	S
Boron	A	mg/L	0.1408	0.1408		0.1	0.06388	0	0.0203802	0.01467	1	77%	75	125	0%	
Cadmium	A	mg/L	0.05598	0.05598		0.05	0	0	1.821E-05	0.005	1	112%	75	125	0%	
Calcium	A	mg/L	20.01	20.01		5	16.08	0	0.0372936	0.1103481	50	79%	75	125	0%	
Cerium	A	mg/L	0.1108	0.1108		0.1	0	0	2.738E-05	0.001	0.1	111%	75	125	0%	
Chromium	A	mg/L	0.09578	0.09578		0.1	0.001732	0	0.0015375	0.0015375	1	94%	75	125	0%	
Cobalt	A	mg/L	0.09266	0.09266		0.1	0.0001275	0	9.541E-05	0.001	1	93%	75	125	0%	
Copper	A	mg/L	0.1084	0.1084		0.1	0.001067	0	0.0008747	0.00198	1	107%	75	125	0%	
Iron	A	mg/L	0.5117	0.5117		0.5	0.01937	0	0.007424	0.00513	5	98%	75	125	0%	
Lanthanum	A	mg/L	0.1089	0.1089		0.1	0	0	0.000055	0.001	0.1	109%	75	125	0%	
Lead	A	mg/L	0.09999	0.09999		0.1	0	0	7.716E-05	0.001	1	100%	88	115	0%	
Magnesium	A	mg/L	21.28	21.28		5	15.97	0	0.0104254	0.0081522	50	106%	75	125	0%	
Manganese	A	mg/L	0.4932	0.4932		0.5	0.01391	0	0.0005399	0.001	1	96%	75	125	0%	
Molybdenum	A	mg/L	0.09385	0.09385		0.1	0.0002942	0	0.0001763	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.1027	0.1027		0.1	0.001088	0	0.0002288	0.0024200	1	102%	75	125	0%	
Potassium	A	mg/L	5.762	5.762		5	1.789	0	0.0765619	0.0261205	50	79%	75	125	0%	
Selenium	A	mg/L	0.1049	0.1049		0.1	0.0005451	0	0.0001357	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	20.33	20.33		1	20.5	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009463	0.009463		0.01	0	0	4.281E-05	0.001	0.04	95%	75	125	0%	
Sodium	A	mg/L	48.05	48.05		5	43.97	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.2461	0.2461		0.1	0.1417	0	0.0002433	0.001	1	104%	75	125	0%	
Thallium	A	mg/L	0.09889	0.09889		0.1	0	0	0.0001114	0.001	1	99%	75	125	0%	
Thorium	A	mg/L	0.1041	0.1041		0.1	0	0	0.0003796	0.00415	1	104%	75	125	0%	
Tin	A	mg/L	0.1025	0.1025		0.1	0	0	0.0018932	0.0011175	0.1	102%	75	125	0%	
Titanium	A	mg/L	0.08423	0.08423		0.1	0.00122	0	0.0005733	0.001	1	83%	75	125	0%	
Uranium	A	mg/L	0.105	0.105		0.1	2.703E-05	0	1.699E-05	0.0003	1	105%	75	125	0%	
Vanadium	A	mg/L	0.1043	0.1043		0.1	0.00786	0	0.0039127	0.0021085	1	96%	75	125	0%	
Zinc	A	mg/L	0.1085	0.1085		0.1	0.003658	0	0.0011617	0.0065544	1	105%	75	125	0%	
Silica	C	mg/L	43.489936	43.489936		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	43.489936	43.489936		2.14	0	0	0.0902933	0.0113831	5	2032%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009840	B22011592-001	ICPMS-6020-W-	MSD4		1/31/2022 7:54:3	1	163290	1/27/2022 8:	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	0.4167	0.4167		0.5	0	0.4145	0.0038747	0.0031975	1	83%	75	125	1%	
Antimony	A	mg/L	0.1118	0.1118		0.1	0	0.1074	0.0002799	0.001	0.1	112%	75	125	4%	
Arsenic	A	mg/L	0.1033	0.1033		0.1	0	0.1022	0.0003412	0.001	1	103%	75	125	1%	
Barium	A	mg/L	0.1157	0.1157		0.1	0.007753	0.1089	0.0002682	0.001	1	108%	75	125	6%	
Beryllium	A	mg/L	0.03362	0.03362		0.05	0	0.03301	0.0001071	0.01	1	67%	75	125	2%	S
Boron	A	mg/L	0.1447	0.1447		0.1	0.06388	0.1408	0.0203802	0.01467	1	81%	75	125	3%	
Cadmium	A	mg/L	0.0566	0.0566		0.05	0	0.05598	1.821E-05	0.005	1	113%	75	125	1%	
Calcium	A	mg/L	20.04	20.04		5	16.08	20.01	0.0372936	0.1103481	50	79%	75	125	0%	
Cerium	A	mg/L	0.1114	0.1114		0.1	0	0.1108	2.738E-05	0.001	0.1	111%	75	125	1%	
Chromium	A	mg/L	0.09749	0.09749		0.1	0.001732	0.09578	0.0015375	0.0015375	1	96%	75	125	2%	
Cobalt	A	mg/L	0.09319	0.09319		0.1	0.0001275	0.09266	9.541E-05	0.001	1	93%	75	125	1%	
Copper	A	mg/L	0.1099	0.1099		0.1	0.001067	0.1084	0.0008747	0.00198	1	109%	75	125	1%	
Iron	A	mg/L	0.5122	0.5122		0.5	0.01937	0.5117	0.007424	0.00513	5	99%	75	125	0%	
Lanthanum	A	mg/L	0.1101	0.1101		0.1	0	0.1089	0.000055	0.001	0.1	110%	75	125	1%	
Lead	A	mg/L	0.1066	0.1066		0.1	0	0.09999	7.716E-05	0.001	1	107%	88	115	6%	
Magnesium	A	mg/L	21.71	21.71		5	15.97	21.28	0.0104254	0.0081522	50	115%	75	125	2%	
Manganese	A	mg/L	0.5008	0.5008		0.5	0.01391	0.4932	0.0005399	0.001	1	97%	75	125	2%	
Molybdenum	A	mg/L	0.094	0.094		0.1	0.0002942	0.09385	0.0001763	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.1057	0.1057		0.1	0.001088	0.1027	0.0002288	0.0024200	1	105%	75	125	3%	
Potassium	A	mg/L	5.949	5.949		5	1.789	5.762	0.0765619	0.0261205	50	83%	75	125	3%	
Selenium	A	mg/L	0.1044	0.1044		0.1	0.0005451	0.1049	0.0001357	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	20.88	20.88		1	20.5	20.33	0.0422089	0.0053212	0.4		75	125	3%	A
Silver	A	mg/L	0.009635	0.009635		0.01	0	0.009463	4.281E-05	0.001	0.04	96%	75	125	2%	
Sodium	A	mg/L	49.81	49.81		5	43.97	48.05	0.1019461	0.7330269	50		75	125	4%	A
Strontium	A	mg/L	0.2477	0.2477		0.1	0.1417	0.2461	0.0002433	0.001	1	106%	75	125	1%	
Thallium	A	mg/L	0.09706	0.09706		0.1	0	0.09889	0.0001114	0.001	1	97%	75	125	2%	
Thorium	A	mg/L	0.1036	0.1036		0.1	0	0.1041	0.0003796	0.00415	1	104%	75	125	0%	
Tin	A	mg/L	0.1073	0.1073		0.1	0	0.1025	0.0018932	0.0011175	0.1	107%	75	125	5%	
Titanium	A	mg/L	0.08452	0.08452		0.1	0.00122	0.08423	0.0005733	0.001	1	83%	75	125	0%	
Uranium	A	mg/L	0.1132	0.1132		0.1	2.703E-05	0.105	1.699E-05	0.0003	1	113%	75	125	8%	
Vanadium	A	mg/L	0.1061	0.1061		0.1	0.00786	0.1043	0.0039127	0.0021085	1	98%	75	125	2%	
Zinc	A	mg/L	0.11	0.11		0.1	0.003658	0.1085	0.0011617	0.0065544	1	106%	75	125	1%	
Silica	C	mg/L	44.666496	44.666496		0	0	43.489936	0.0902933	0.0113831	5	0%	0	0	3%	
Silicon as SiO2	C	mg/L	44.666496	44.666496		2.14	0	43.489936	0.0902933	0.0113831	5	2087%	75	125	3%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009841	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 8:00:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	-2.574E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	7.947E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00001623	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00000263	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0001207	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.844E-05	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	6.081E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001672	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	0.003795	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-3.944E-07	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0002142	0.0002142		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001061	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-4.473E-05	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	-0.0007638	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0007638	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-0.0000461	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009842	B22011592-006	ICPMS-6020-W-	SAMP		1/31/2022 8:07:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00003576	0.00003576		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00002179	0.00002179		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	J
Chromium	A	mg/L	-6.359E-05	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0004427	0.0004427		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-0.0001641	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.5002	0.5002		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.0001004	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002644	0.0002644		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-6.259E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0000867	0.0000867		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00003177	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.002114	0.002114		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.4468	0.4468		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.4468	0.4468		0	0	0	0.00119	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					
15009842	B22011592-006	ICPMS-6020-W-	SAMP		1/31/2022 8:07:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	B	mg/L	10.38	10.38		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	39.81	39.81		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0002425	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009843	B22011592-006	ICPMS-6020-W-	SAMP		1/31/2022 8:13:1	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	0.0000589	0.0000589		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0004915	0.0004915		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	9.901E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	-3.612E-05	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.4805	0.4805		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003649	0.0003649		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-5.863E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.0001279	0.0001279		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.002553	0.002553		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.0003221	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Iron	B	mg/L	0.4449	0.4449		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	10.27	10.27		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	39.82	39.82		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.0001909	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0006023	0		0	0	0	0.0018932	0.0011175	0.1	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					
15009844	B22011592-012	ICPMS-6020-W-	SAMP		1/31/2022 8:19:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00004423	0.00004423		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	3.587E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0008422	0.0008422		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.00002224	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.000141	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.007899	0.007899		0	0	0	0.000095	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					
15009844	B22011592-012	ICPMS-6020-W-	SAMP		1/31/2022 8:19:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Mercury	A	mg/L	5.064E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003716	0.0003716		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-6.201E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00004239	0.00004239		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	5.625E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.001384	0.001384		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.0000672	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0000672	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	17.56	17.56		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	38.31	38.31		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0002309	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009845	B22011592-012	ICPMS-6020-W-	SD		1/31/2022 8:25:4	5	R373996		0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.001214	0		0	0	0.001797	0.0043	0.0043	1	0%				
Antimony	A	mg/L	0.00003199	0		0	0	0	0.0021	0.0021	0.1	0%				
Arsenic	A	mg/L	-0.0005492	0		0	0	0	0.00095	0.001	1	0%				
Barium	A	mg/L	0.0009542	0.004771		0	0	0.00449	0.00021	0.001	1	0%			6%	
Beryllium	A	mg/L	-0.0001248	0		0	0	0	0.0006	0.001	1	0%				
Boron	A	mg/L	0.008537	0.042685		0	0	0.0347	0.02805	0.02805	1	0%				N
Cadmium	A	mg/L	0.00002409	0		0	0	4.423E-05	0.000125	0.001	1	0%				
Calcium	A	mg/L	3.079	15.395		0	0	15.18	0.1046	0.1046	50	0%			1%	
Cerium	A	mg/L	1.762E-06	0		0	0	0	0.00006	0.001	0.1	0%				
Chromium	A	mg/L	0.0002334	0.001167		0	0	0.0008422	0.0009	0.001	1	0%				N
Cobalt	A	mg/L	-4.701E-06	0		0	0	0	0.00021	0.001	1	0%				
Copper	A	mg/L	0.0001576	0		0	0	0.0003854	0.00135	0.00135	1	0%				
Iron	A	mg/L	-0.0004449	0		0	0	0	0.00595	0.00595	5	0%				
Lanthanum	A	mg/L	4.334E-07	0		0	0	0	0.000055	0.001	0.1	0%				
Lead	A	mg/L	-0.0001649	0		0	0	0	0.00028	0.001	1	0%				
Magnesium	A	mg/L	3.437	17.185		0	0	17.56	0.0282	0.0282	50	0%			2%	
Manganese	A	mg/L	0.001586	0.00793		0	0	0.007899	0.000475	0.001	1	0%			0%	
Mercury	A	mg/L	1.744E-06	0		0	0	0	0.0008	0.001	0.002	0%				
Molybdenum	A	mg/L	0.00007173	0.00035865		0	0	0.0003716	0.00025	0.001	0.1	0%				N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009845	B22011592-012	ICPMS-6020-W- SD			1/31/2022 8:25:4	5	R373996			0	2E+07					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	0.0000983	0		0	0	0.0006365	0.00315	0.00315	1	0%				
Potassium	A	mg/L	0.493	2.465		0	0	3.185	0.40695	0.40695	50	0%				N
Selenium	A	mg/L	0.00001932	0		0	0	0	0.00165	0.00165	1	0%				
Silicon	A	mg/L	5.193	25.965		0	0	25.28	0.06115	0.1	0.4	0%			3%	
Silver	A	mg/L	-6.538E-05	0		0	0	0	0.0001	0.001	0.04	0%				
Sodium	A	mg/L	7.979	39.895		0	0	38.31	0.10855	0.10855	50	0%			4%	
Strontium	A	mg/L	0.03701	0.18505		0	0	0.1801	0.0007	0.001	1	0%			3%	
Thallium	A	mg/L	2.608E-06	0		0	0	4.239E-05	0.000205	0.001	1	0%				
Thorium	A	mg/L	0.0000173	0		0	0	0	0.00305	0.00305	1	0%				
Tin	A	mg/L	-7.997E-05	0		0	0	0	0.0066	0.0066	0.1	0%				
Titanium	A	mg/L	0.0001638	0.000819		0	0	0.001384	0.00047	0.001	1	0%				N
Uranium	A	mg/L	2.662E-06	0		0	0	0	0.00026	0.0003	1	0%				
Vanadium	A	mg/L	-0.01067	0		0	0	0	0.0065	0.0065	1	0%				
Zinc	A	mg/L	0.0007249	0		0	0	0	0.01365	0.01365	1	0%				
Iron, Ferrous	C	mg/L	-0.0004449	0		0	0	0	0.00595	0.00595	5	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009846	B22011592-012	ICPMS-6020-W- MS			1/31/2022 8:31:5	1.03	R373996			2E+07	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04027	0.0414781		0.05	0.001797	0	0.0008858	0.001	1	79%	75	125	0%	
Antimony	A	mg/L	0.04955	0.0510365		0.05	0	0	0.0004326	0.001	0.1	102%	75	125	0%	
Arsenic	A	mg/L	0.0496	0.051088		0.05	0	0	0.0001957	0.001	1	102%	75	125	0%	
Barium	A	mg/L	0.05586	0.0575358		0.05	0.00449	0	4.326E-05	0.001	1	106%	75	125	0%	
Beryllium	A	mg/L	0.03282	0.0338046		0.05	0	0	0.0001236	0.001	1	68%	75	125	0%	S
Boron	A	mg/L	0.06985	0.0719455		0.05	0.0347	0	0.0057783	0.0057783	1	74%	75	125	0%	S
Cadmium	A	mg/L	0.04937	0.0508511		0.05	4.423E-05	0	2.575E-05	0.001	1	102%	75	125	0%	
Calcium	A	mg/L	58.29	60.0387		50	15.18	0	0.0215476	0.0215476	50	90%	75	125	0%	E
Cerium	A	mg/L	0.05258	0.0541574		0.05	0	0	1.236E-05	0.001	0.1	108%	75	125	0%	
Chromium	A	mg/L	0.04836	0.0498108		0.05	0.0008422	0	0.0001854	0.001	1	98%	75	125	0%	
Cobalt	A	mg/L	0.04473	0.0460719		0.05	0	0	4.326E-05	0.001	1	92%	75	125	0%	
Copper	A	mg/L	0.0512	0.052736		0.05	0.0003854	0	0.0002781	0.001	1	105%	75	125	0%	
Iron	A	mg/L	4.9	5.047		5.05	0	0	0.0012257	0.0012257	5	100%	75	125	0%	
Lanthanum	A	mg/L	5.921E-06	0		0.05	0	0	1.133E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.04721	0.0486263		0.05	0	0	5.768E-05	0.001	1	97%	88	115	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009846	B22011592-012	ICPMS-6020-W- MS			1/31/2022 8:31:5	1.03	R373996		2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	65.75	67.7225		50	17.56	0	0.0058092	0.0058092	50	100%	75	125	0%	E
Manganese	A	mg/L	0.05473	0.0563719		0.05	0.007899	0	9.785E-05	0.001	1	97%	75	125	0%	
Mercury	A	mg/L	0.0009491	0.00097757		0.001	0	0	0.0001648	0.001	0.002	98%	75	125	0%	
Molybdenum	A	mg/L	0.045	0.04635		0.05	0.0003716	0	0.0000515	0.001	0.1	92%	75	125	0%	
Nickel	A	mg/L	0.04921	0.0506863		0.05	0.0006365	0	0.0006489	0.001	1	100%	75	125	0%	
Potassium	A	mg/L	46.5	47.895		50	3.185	0	0.0838317	0.0838317	50	89%	75	125	0%	
Selenium	A	mg/L	0.05053	0.0520459		0.05	0	0	0.0003399	0.001	1	104%	75	125	0%	
Silicon	A	mg/L	25.05	25.8015		0.2	25.28	0	0.0125969	0.1	0.4		75	125	0%	AE
Silver	A	mg/L	0.019	0.01957		0.02	0	0	0.0000206	0.001	0.04	98%	75	125	0%	
Sodium	A	mg/L	86.57	89.1671		50	38.31	0	0.0223613	0.0223613	50	102%	75	125	0%	E
Strontium	A	mg/L	0.2262	0.232986		0.05	0.1801	0	0.0001442	0.001	1	106%	75	125	0%	
Thallium	A	mg/L	0.04768	0.0491104		0.05	4.239E-05	0	4.223E-05	0.001	1	98%	75	125	0%	
Thorium	A	mg/L	0.04789	0.0493267		0.05	0	0	0.0006283	0.001	1	99%	75	125	0%	
Tin	A	mg/L	0.04725	0.0486675		0.05	0	0	0.0013596	0.0013596	0.1	97%	75	125	0%	
Titanium	A	mg/L	0.04703	0.0484409		0.05	0.001384	0	9.682E-05	0.001	1	94%	75	125	0%	
Uranium	A	mg/L	0.05089	0.0524167		0.05	0	0	5.356E-05	0.0003	1	105%	75	125	0%	
Vanadium	A	mg/L	0.04532	0.0466796		0.05	0	0	0.001339	0.001339	1	93%	75	125	0%	
Zinc	A	mg/L	0.05218	0.0537454		0.05	0	0	0.0028119	0.0028119	1	107%	75	125	0%	
Iron, Ferrous	C	mg/L	4.9	5.047		0	0	0	0.0012257	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					
15009847	B22011592-012	ICPMS-6020-W- MSD			1/31/2022 8:38:0	1.03	R373996		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	0.04157	0.0428171		0.05	0.001797	0.0414781	0.0008858	0.001	1	82%	75	125	3%	
Antimony	A	mg/L	0.04962	0.0511086		0.05	0	0.0510365	0.0004326	0.001	0.1	102%	75	125	0%	
Arsenic	A	mg/L	0.05011	0.0516133		0.05	0	0.051088	0.0001957	0.001	1	103%	75	125	1%	
Barium	A	mg/L	0.05656	0.0582568		0.05	0.00449	0.0575358	4.326E-05	0.001	1	108%	75	125	1%	
Beryllium	A	mg/L	0.0356	0.036668		0.05	0	0.0338046	0.0001236	0.001	1	73%	75	125	8%	S
Boron	A	mg/L	0.0742	0.076426		0.05	0.0347	0.0719455	0.0057783	0.0057783	1	83%	75	125	6%	
Cadmium	A	mg/L	0.04924	0.0507172		0.05	4.423E-05	0.0508511	2.575E-05	0.001	1	101%	75	125	0%	
Calcium	A	mg/L	59.95	61.7485		50	15.18	60.0387	0.0215476	0.0215476	50	93%	75	125	3%	E
Cerium	A	mg/L	0.05151	0.0530553		0.05	0	0.0541574	1.236E-05	0.001	0.1	106%	75	125	2%	
Chromium	A	mg/L	0.04839	0.0498417		0.05	0.0008422	0.0498108	0.0001854	0.001	1	98%	75	125	0%	
Cobalt	A	mg/L	0.04471	0.0460513		0.05	0	0.0460719	4.326E-05	0.001	1	92%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009847	B22011592-012	ICPMS-6020-W- MSD			1/31/2022 8:38:0	1.03	R373996		2E+07	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.05105	0.0525815		0.05	0.0003854	0.052736	0.0002781	0.001	1	104%	75	125	0%	
Iron	A	mg/L	5.017	5.16751		5.05	0	5.047	0.0012257	0.0012257	5	102%	75	125	2%	E
Lanthanum	A	mg/L	4.591E-06	0		0.05	0	0	1.133E-05	0.001	0.1	0%	75	125		S
Lead	A	mg/L	0.04826	0.0497078		0.05	0	0.0486263	5.768E-05	0.001	1	99%	88	115	2%	
Magnesium	A	mg/L	64.59	66.5277		50	17.56	67.7225	0.0058092	0.0058092	50	98%	75	125	2%	E
Manganese	A	mg/L	0.05542	0.0570826		0.05	0.007899	0.0563719	9.785E-05	0.001	1	98%	75	125	1%	
Mercury	A	mg/L	0.0009856	0.00101517		0.001	0	0.0009776	0.0001648	0.001	0.002	102%	75	125		
Molybdenum	A	mg/L	0.04561	0.0469783		0.05	0.0003716	0.04635	0.0000515	0.001	0.1	93%	75	125	1%	
Nickel	A	mg/L	0.04883	0.0502949		0.05	0.0006365	0.0506863	0.0006489	0.001	1	99%	75	125	1%	
Potassium	A	mg/L	47.98	49.4194		50	3.185	47.895	0.0838317	0.0838317	50	92%	75	125	3%	
Selenium	A	mg/L	0.0517	0.053251		0.05	0	0.0520459	0.0003399	0.001	1	107%	75	125	2%	
Silicon	A	mg/L	25.29	26.0487		0.2	25.28	25.8015	0.0125969	0.1	0.4		75	125	1%	AE
Silver	A	mg/L	0.01907	0.0196421		0.02	0	0.01957	0.0000206	0.001	0.04	98%	75	125	0%	
Sodium	A	mg/L	84.54	87.0762		50	38.31	89.1671	0.0223613	0.0223613	50	98%	75	125	2%	E
Strontium	A	mg/L	0.2241	0.230823		0.05	0.1801	0.232986	0.0001442	0.001	1	101%	75	125	1%	
Thallium	A	mg/L	0.04916	0.0506348		0.05	4.239E-05	0.0491104	4.223E-05	0.001	1	101%	75	125	3%	
Thorium	A	mg/L	0.0481	0.049543		0.05	0	0.0493267	0.0006283	0.001	1	99%	75	125	0%	
Tin	A	mg/L	0.04683	0.0482349		0.05	0	0.0486675	0.0013596	0.0013596	0.1	96%	75	125	1%	
Titanium	A	mg/L	0.04865	0.0501095		0.05	0.001384	0.0484409	9.682E-05	0.001	1	97%	75	125	3%	
Uranium	A	mg/L	0.05106	0.0525918		0.05	0	0.0524167	5.356E-05	0.0003	1	105%	75	125	0%	
Vanadium	A	mg/L	0.04779	0.0492237		0.05	0	0.0466796	0.001339	0.001339	1	98%	75	125	5%	
Zinc	A	mg/L	0.05198	0.0535394		0.05	0	0.0537454	0.0028119	0.0028119	1	107%	75	125	0%	
Iron, Ferrous	C	mg/L	5.017	5.16751		0	0	5.047	0.0012257	0.0012257	5	0%	0	0	2%	E

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009848	Rinse	ICPMS-6020-W- SAMP			1/31/2022 8:44:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00001258	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	3.414E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-1.006E-05	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.352E-05	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.000176	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.004E-05	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	8.649E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009848	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 8:44:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Molybdenum	A	mg/L	0.00006074	0.00006074		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silicon	A	mg/L	0.00152	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.058E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00007734	0.00007734		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001025	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0001614	0.0001614		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	-0.000529	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.000529	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-4.473E-06	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009849	B22011592-012	ICPMS-6020-W-	SAMP		1/31/2022 8:50:3	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	0.00007129	0.00007129		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0002046	0.0002046		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.00003168	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	-1.898E-05	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.01724	0.01724		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0005346	0.0005346		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-5.705E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.0001176	0.0001176		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.006261	0.006261		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.001389	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Iron	B	mg/L	0.07519	0.07519		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	17.65	17.65		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	38.27	38.27		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.0002044	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0007332	0		0	0	0	0.0018932	0.0011175	0.1	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					
15009850	CCV	ICPMS-6020-W-	CCV		1/31/2022 8:56:4	1	R373996		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					
15009850	CCV	ICPMS-6020-W-	CCV		1/31/2022 8:56:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04015	0.04015		0.05	0	0	0.00086	0.001	1	80%	90	110	0%	S
Antimony	A	mg/L	0.05332	0.05332		0.05	0	0	0.00042	0.001	0.1	107%	90	110	0%	
Arsenic	A	mg/L	0.05672	0.05672		0.05	0	0	0.00019	0.001	1	113%	90	110	0%	S
Barium	A	mg/L	0.05521	0.05521		0.05	0	0	0.000042	0.001	1	110%	90	110	0%	
Beryllium	A	mg/L	0.03314	0.03314		0.05	0	0	0.00012	0.001	1	66%	90	110	0%	S
Boron	A	mg/L	0.03795	0.03795		0.05	0	0	0.00561	0.00561	1	76%	90	110	0%	S
Cadmium	A	mg/L	0.05385	0.05385		0.05	0	0	0.000025	0.001	1	108%	90	110	0%	
Calcium	A	mg/L	10.9	10.9		12.5	0	0	0.02092	0.02092	50	87%	90	110	0%	S
Cerium	A	mg/L	0.05403	0.05403		0.05	0	0	0.000012	0.001	0.1	108%	90	110	0%	
Chromium	A	mg/L	0.052	0.052		0.05	0	0	0.00018	0.001	1	104%	90	110	0%	
Cobalt	A	mg/L	0.05087	0.05087		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Copper	A	mg/L	0.05441	0.05441		0.05	0	0	0.00028	0.001	1	109%	90	110	0%	
Iron	A	mg/L	1.261	1.261		1.3	0	0	0.00119	0.00119	5	97%	90	110	0%	
Lanthanum	A	mg/L	0.0538	0.0538		0.05	0	0	0.000011	0.001	0.1	108%	90	110	0%	
Lead	A	mg/L	0.05313	0.05313		0.05	0	0	0.000056	0.001	1	106%	90	110	0%	
Magnesium	A	mg/L	12.61	12.61		12.5	0	0	0.00564	0.00564	50	101%	90	110	0%	
Manganese	A	mg/L	0.05322	0.05322		0.05	0	0	0.000095	0.001	1	106%	90	110	0%	
Mercury	A	mg/L	0.001003	0.001003		0.001	0	0	0.00016	0.001	0.002	100%	90	110	0%	
Molybdenum	A	mg/L	0.04757	0.04757		0.05	0	0	0.00005	0.001	0.1	95%	90	110	0%	
Nickel	A	mg/L	0.05223	0.05223		0.05	0	0	0.00052	0.001	1	104%	90	110	0%	
Potassium	A	mg/L	10.39	10.39		12.5	0	0	0.08139	0.08139	50	83%	90	110	0%	S
Selenium	A	mg/L	0.0549	0.0549		0.05	0	0	0.00033	0.001	1	110%	90	110	0%	
Silicon	A	mg/L	0.195	0.195		0.2	0	0	0.01223	0.1	0.4	97%	90	110	0%	
Silver	A	mg/L	0.02002	0.02002		0.02	0	0	0.00002	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	12.6	12.6		12.5	0	0	0.02171	0.02171	50	101%	90	110	0%	
Strontium	A	mg/L	0.05917	0.05917		0.05	0	0	0.00014	0.001	1	118%	90	110	0%	S
Thallium	A	mg/L	0.05307	0.05307		0.05	0	0	0.000041	0.001	1	106%	90	110	0%	
Thorium	A	mg/L	0.05364	0.05364		0.05	0	0	0.00061	0.001	1	107%	90	110	0%	
Tin	A	mg/L	0.05033	0.05033		0.05	0	0	0.00132	0.00132	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.04494	0.04494		0.05	0	0	0.000094	0.001	1	90%	90	110	0%	
Uranium	A	mg/L	0.05593	0.05593		0.05	0	0	0.000052	0.0003	1	112%	90	110	0%	S
Vanadium	A	mg/L	0.04216	0.04216		0.05	0	0	0.0013	0.0013	1	84%	90	110	0%	S
Zinc	A	mg/L	0.06007	0.06007		0.05	0	0	0.00273	0.00273	1	120%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.261	1.261		0	0	0	0.00119	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					
15009851	CCB	ICPMS-6020-W-	CCB		1/31/2022 9:03:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002525	-0.002525		0	0	0	0.00086	0.001	1	0%				0%
Antimony	A	mg/L	0.0001136	0.0001136		0	0	0	0.00042	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0005118	-0.0005118		0	0	0	0.00019	0.001	1	0%				0%
Barium	A	mg/L	-1.611E-06	-1.611E-06		0	0	0	0.000042	0.001	1	0%				0%
Beryllium	A	mg/L	-0.0001175	-0.0001175		0	0	0	0.00012	0.001	1	0%				0%
Boron	A	mg/L	0.001427	0.001427		0	0	0	0.00561	0.00561	1	0%				0%
Cadmium	A	mg/L	-2.767E-06	-2.767E-06		0	0	0	0.000025	0.001	1	0%				0%
Calcium	A	mg/L	-0.006337	-0.006337		0	0	0	0.02092	0.02092	50	0%				0%
Cerium	A	mg/L	9.415E-07	9.415E-07		0	0	0	0.000012	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	0.0000324	0.0000324		0	0	0	0.00018	0.001	1	0%				0%
Cobalt	A	mg/L	-1.301E-05	-1.301E-05		0	0	0	0.000042	0.001	1	0%				0%
Copper	A	mg/L	0.00003546	0.00003546		0	0	0	0.00027	0.001	1	0%				0%
Iron	A	mg/L	-0.0008041	-0.0008041		0	0	0	0.00119	0.00119	5	0%				0%
Lanthanum	A	mg/L	-7.994E-07	-7.994E-07		0	0	0	0.000011	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-0.0001556	-0.0001556		0	0	0	0.000056	0.001	1	0%				0%
Magnesium	A	mg/L	0.009733	0.009733		0	0	0	0.00564	0.00564	50	0%				0%
Manganese	A	mg/L	-2.655E-05	-2.655E-05		0	0	0	0.000095	0.001	1	0%				0%
Mercury	A	mg/L	0.00001059	0.00001059		0	0	0	0.00016	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00002061	0.00002061		0	0	0	0.00005	0.001	0.1	0%				0%
Nickel	A	mg/L	-6.415E-05	-6.415E-05		0	0	0	0.00063	0.001	1	0%				0%
Potassium	A	mg/L	-0.1602	-0.1602		0	0	0	0.08139	0.08139	50	0%				0%
Selenium	A	mg/L	-3.299E-05	-3.299E-05		0	0	0	0.00033	0.001	1	0%				0%
Silicon	A	mg/L	0.002126	0.002126		0	0	0	0.01223	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	6.862E-07	6.862E-07		0	0	0	0.00002	0.001	0.04	0%				0%
Sodium	A	mg/L	0.1295	0.1295		0	0	0	0.02171	0.02171	50	0%				0%
Strontium	A	mg/L	7.911E-06	7.911E-06		0	0	0	0.00014	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.0001809	0.0001809		0	0	0	0.000041	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00007672	0.00007672		0	0	0	0.00061	0.001	1	0%	0	0		0%
Tin	A	mg/L	-7.324E-05	-7.324E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	-4.217E-05	-4.217E-05		0	0	0	0.000094	0.001	1	0%	0	0		0%
Uranium	A	mg/L	3.874E-06	3.874E-06		0	0	0	0.000052	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	-0.01092	-0.01092		0	0	0	0.0013	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	-8.288E-05	-8.288E-05		0	0	0	0.00273	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	-0.0008041	-0.0008041		0	0	0	0.00119	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					
15009852	B22011592-017	ICPMS-6020-W-	SAMP		1/31/2022 9:09:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.000114	0.000114		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00001396	0.00001396		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	J
Chromium	A	mg/L	0.0001947	0.0001947		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0005197	0.0005197		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-6.567E-06	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.09739	0.09739		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00001207	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.000565	0.000565		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-0.0000607	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00007319	0.00007319		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00006204	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.001108	0.001108		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.0329	0.0329		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0329	0.0329		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	41.05	41.05		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0002401	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009853	B22011592-017	ICPMS-6020-W-	SAMP		1/31/2022 9:15:3	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	0.0005286	0.0005286		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.001031	0.001031		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	0.0002332	0.0002332		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	J
Lead	A	mg/L	0.005555	0.005555		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.1254	0.1254		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0007634	0.0007634		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-4.737E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.0001113	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.04262	0.04262		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.002642	0.002642		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UD
Iron	B	mg/L	1.104	1.104		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	42.31	42.31		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Thorium	B	mg/L	0.0001732	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0007356	0		0	0	0	0.0018932	0.0011175	0.1	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					
15009853	B22011592-017	ICPMS-6020-W-	SAMP		1/31/2022 9:15:3	1	163290	1/27/2022 8:	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					
15009854	B22011592-022	ICPMS-6020-W-	SAMP		1/31/2022 9:21:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00003671	0.00003671		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00001252	0.00001252		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	J
Chromium	A	mg/L	0.0006019	0.0006019		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0001168	0.0001168		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-0.0001504	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.00644	0.00644		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.001375	0.001375		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.003156	0.003156		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silver	A	mg/L	-5.402E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00003064	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	1.485E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.001303	0.001303		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.03766	0.03766		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.03766	0.03766		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	36.61	36.61		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0002056	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009855	B22011592-022	ICPMS-6020-W-	SAMP		1/31/2022 9:28:0	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	0.00007434	0.00007434		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0002182	0.0002182		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.00003086	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	0.00006081	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.007028	0.007028		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.003152	0.003152		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Silver	A	mg/L	-0.00005	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.00008988	0		0	0	0	0.0001114	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					
15009855	B22011592-022	ICPMS-6020-W-	SAMP		1/31/2022 9:28:0	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Titanium	A	mg/L	0.003584	0.003584		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.001181	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Iron	B	mg/L	0.2117	0.2117		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	37.99	37.99		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00006613	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0007184	0		0	0	0	0.0018932	0.0011175	0.1	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						
15009856	B22011592-027	ICPMS-6020-W-	SAMP		1/31/2022 9:34:1	1	R373996				0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q	
Cadmium	A	mg/L	0.00006249	0.00006249		0	0	0	0.000025	0.001	1	0%	0	0	0%	J	
Cerium	A	mg/L	2.275E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%		
Chromium	A	mg/L	0.0008228	0.0008228		0	0	0	0.00018	0.001	1	0%	0	0	0%	J	
Cobalt	A	mg/L	0.0001763	0.0001763		0	0	0	0.000042	0.001	1	0%	0	0	0%	J	
Lead	A	mg/L	-0.0001369	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U	
Manganese	A	mg/L	0.07852	0.07852		0	0	0	0.000095	0.001	1	0%	0	0	0%		
Mercury	A	mg/L	0.00001226	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%		
Molybdenum	A	mg/L	0.0001971	0.0001971		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J	
Silver	A	mg/L	-5.487E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%		
Thallium	A	mg/L	0.00001709	0		0	0	0	0.000041	0.001	1	0%	0	0	0%		
Thorium	A	mg/L	-1.304E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%		
Titanium	A	mg/L	0.001012	0.001012		0	0	0	0.000094	0.001	1	0%	0	0	0%		
Iron	B	mg/L	0.005674	0.005674		0	0	0	0.00119	0.00119	5	0%	0	0	0%		
Iron, Ferrous	B	mg/L	0.005674	0.005674		0	0	0	0.00119	0.00119	5	0%	0	0	0%		
Magnesium	B	mg/L	19.47	19.47		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D	
Tin	B	mg/L	-0.0002411	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%		

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009857	B22011592-027	ICPMS-6020-W-	SAMP		1/31/2022 9:40:3	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	8.916E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0002999	0.0002999		0	0	0	9.541E-05	0.001	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					
15009857	B22011592-027	ICPMS-6020-W-	SAMP		1/31/2022 9:40:3	1	163290	1/27/2022 8:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lanthanum	A	mg/L	2.609E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	0.00002166	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.07705	0.07705		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002604	0.0002604		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-0.0000641	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.00008417	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001237	0.001237		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.001471	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UL
Iron	B	mg/L	0.04211	0.04211		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	18.63	18.63		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	48.84	48.84		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00004675	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.0006303	0		0	0	0	0.0018932	0.0011175	0.1	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					
15009858	B22011717-001	ICPMS-6020-W-	SAMP		1/31/2022 9:46:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00003822	0.00003822		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	3.165E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.002121	0.002121		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-2.367E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0001453	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.00009231	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	5.892E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001076	0.0001076		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-5.981E-05	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	7.021E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	-9.653E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.001215	0.001215		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.002319	0.002319		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.002319	0.002319		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.331	9.331		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	32.3	32.3		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	0.00003756	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009858	B22011717-001	ICPMS-6020-W-	SAMP		1/31/2022 9:46:4	1	R373996			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					
15009859	B22011717-001	ICPMS-6020-W-	SAMP		1/31/2022 9:53:0	1	163315	1/27/2022 1:		0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Cerium	A	mg/L	0.0001018	0.0001018		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0001654	0.0001654		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.00005577	0.00005577		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	J
Lead	A	mg/L	0.0002466	0.0002466		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.002567	0.002567		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002967	0.0002967		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Silver	A	mg/L	-4.498E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Thallium	A	mg/L	0.00007139	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.006548	0.006548		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Chromium	B	mg/L	0.003504	0.003504		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	UD
Iron	B	mg/L	0.2184	0.2184		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	9.476	9.476		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	38.39	38.39		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00004779	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	UL
Tin	B	mg/L	0.006215	0.006215		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009860	B22011717-001	ICPMS-6020-W-	SD		1/31/2022 9:59:1	5	163315	1/27/2022 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	0.01337	0.06685		0	0	0.07505	0.0193736	0.0159875	1	0%	0	0		N
Antimony	A	mg/L	0.0006333	0.0031665		0	0	0.003197	0.0013997	0.0049	0.1	0%	0	0		N
Arsenic	A	mg/L	-0.0002677	0		0	0	0	0.0017061	0.0013383	1	0%	0	0		
Barium	A	mg/L	0.002652	0.01326		0	0	0.0142	0.0013411	0.0012039	1	0%	0	0		N
Beryllium	A	mg/L	-0.0001406	0		0	0	0	0.0005353	0.01	1	0%	0	0		
Boron	A	mg/L	0.00922	0		0	0	0.03649	0.1019008	0.07335	1	0%	0	0		
Cadmium	A	mg/L	2.839E-07	0		0	0	0	9.105E-05	0.005	1	0%	0	0		
Calcium	A	mg/L	1.967	9.835		0	0	9.854	0.1864681	0.5517403	50	0%	0	0	0%	
Cerium	A	mg/L	0.00002151	0		0	0	0.0001018	0.0001369	0.001	0.1	0%	0	0		

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009860	B22011717-001	ICPMS-6020-W-	SD		1/31/2022 9:59:1	5	163315	1/27/2022 1:	0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.0007244	0		0	0.003504	0.0076875	0.0076875		1	0%	0	0		
Cobalt	A	mg/L	0.00002669	0		0	0.0001654	0.0004771	0.001		1	0%	0	0		
Copper	A	mg/L	0.001066	0.00533		0	0.004721	0.0043735	0.0099		1	0%	0	0		N
Iron	A	mg/L	0.0433	0.2165		0	0.2184	0.0371198	0.02565		5	0%	0	0		N
Lanthanum	A	mg/L	9.148E-06	0		0	5.577E-05	0.000275	0.001		0.1	0%	0	0		
Lead	A	mg/L	-6.496E-05	0		0	0.0002466	0.0003858	0.001		1	0%	0	0		
Magnesium	A	mg/L	1.936	9.68		0	9.476	0.0521269	0.0407608		50	0%	0	0		2%
Manganese	A	mg/L	0.0005057	0		0	0.002567	0.0026994	0.0010695		1	0%	0	0		
Molybdenum	A	mg/L	0.00006208	0		0	0.0002967	0.0008814	0.001		0.1	0%	0	0		
Nickel	A	mg/L	0.0002048	0		0	0.001315	0.0011441	0.0121000		1	0%	0	0		
Potassium	A	mg/L	1.252	6.26		0	6.903	0.3828097	0.1306027		50	0%	0	0		10%
Selenium	A	mg/L	8.776E-06	0		0	0.0001704	0.0006787	0.0029274		1	0%	0	0		
Silicon	A	mg/L	3.819	19.095		0	19.27	0.2110446	0.026606		0.4	0%	0	0		1%
Silver	A	mg/L	-6.077E-05	0		0	0	0.0002141	0.001		0.04	0%	0	0		
Sodium	A	mg/L	8.018	40.09		0	38.39	0.5097304	3.6651346		50	0%	0	0		4%
Strontium	A	mg/L	0.01761	0.08805		0	0.0893	0.0012164	0.001		1	0%	0	0		1%
Thallium	A	mg/L	0.00002856	0		0	0	0.0005569	0.001		1	0%	0	0		
Thorium	A	mg/L	5.474E-06	0		0	0	0.0018981	0.02075		1	0%	0	0		
Tin	A	mg/L	0.001192	0		0	0.006215	0.0094659	0.0055874		0.1	0%	0	0		
Titanium	A	mg/L	0.001045	0.005225		0	0.006548	0.0028666	0.001		1	0%	0	0		N
Uranium	A	mg/L	5.433E-06	0		0	2.874E-05	8.495E-05	0.0004224		1	0%	0	0		
Vanadium	A	mg/L	-0.004594	0		0	0.01206	0.0195637	0.0105423		1	0%	0	0		
Zinc	A	mg/L	0.0503	0.2515		0	0.2475	0.0058087	0.0327721		1	0%	0	0		2%
Silica	C	mg/L	8.1696048	40.848024		0	0	0.4514666	0.0569155		5	0%	0	0		N
Silicon as SiO2	C	mg/L	8.1696048	40.848024		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					
15009861	B22011717-001	ICPMS-6020-W-	PDS1		1/31/2022 10:05:	1.03	163315	1/27/2022 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	0.111	0.11433		0.0515	0.07505	0	0.003991	0.0032934	1	76%	75	125	0%	
Antimony	A	mg/L	0.05273	0.0543119		0.0515	0.003197	0	0.0002883	0.0010094	0.1	99%	75	125	0%	
Arsenic	A	mg/L	0.04989	0.0513867		0.0515	0	0	0.0003514	0.001	1	100%	75	125	0%	
Barium	A	mg/L	0.0649	0.066847		0.0515	0.0142	0	0.0002763	0.001	1	102%	75	125	0%	
Beryllium	A	mg/L	0.03266	0.0336398		0.0515	0	0	0.0001103	0.01	1	65%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009861	B22011717-001	ICPMS-6020-W-	PDS1		1/31/2022 10:05:	1.03	163315	1/27/2022 1:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.07284	0.0750252		0.0515	0.03649	0	0.0209916	0.0151101	1	75%	75	125	0%	
Cadmium	A	mg/L	0.05381	0.0554243		0.0515	0	0	1.876E-05	0.005	1	108%	75	125	0%	
Calcium	A	mg/L	51.43	52.9729		51.5	9.854	0	0.0384124	0.1136585	50	84%	75	125	0%	
Cerium	A	mg/L	0.05315	0.0547445		0.0515	0.0001018	0	2.820E-05	0.001	0.1	106%	75	125	0%	
Chromium	A	mg/L	0.0494	0.050882		0.0515	0.003504	0	0.0015836	0.0015836	1	92%	75	125	0%	
Cobalt	A	mg/L	0.04309	0.0443827		0.0515	0.0001654	0	9.827E-05	0.001	1	86%	75	125	0%	
Copper	A	mg/L	0.05588	0.0575564		0.0515	0.004721	0	0.0009009	0.0020394	1	103%	75	125	0%	
Iron	A	mg/L	5.029	5.17987		5.15	0.2184	0	0.0076467	0.0052839	5	96%	75	125	0%	
Lanthanum	A	mg/L	0.00004971	0		0.0515	5.577E-05	0	5.665E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.04755	0.0489765		0.0515	0.0002466	0	7.947E-05	0.001	1	95%	80	120	0%	
Magnesium	A	mg/L	58.75	60.5125		51.5	9.476	0	0.0107381	0.0083967	50	99%	75	125	0%	
Manganese	A	mg/L	0.04925	0.0507275		0.0515	0.002567	0	0.0005561	0.001	1	94%	75	125	0%	
Molybdenum	A	mg/L	0.04409	0.0454127		0.0515	0.0002967	0	0.0001816	0.001	0.1	88%	75	125	0%	
Nickel	A	mg/L	0.04947	0.0509541		0.0515	0.001315	0	0.0002357	0.0024926	1	96%	75	125	0%	
Potassium	A	mg/L	47.56	48.9868		51.5	6.903	0	0.0788588	0.0269042	50	82%	75	125	0%	
Selenium	A	mg/L	0.04991	0.0514073		0.0515	0.0001704	0	0.0001398	0.001	1	99%	75	125	0%	
Silicon	A	mg/L	18.77	19.3331		0.206	19.27	0	0.0434752	0.0054808	0.4		0	0	0%	A
Silver	A	mg/L	0.01872	0.0192816		0.0206	0	0	4.409E-05	0.001	0.04	94%	75	125	0%	
Sodium	A	mg/L	89.36	92.0408		51.5	38.39	0	0.1050045	0.7550177	50	104%	75	125	0%	
Strontium	A	mg/L	0.1325	0.136475		0.0515	0.0893	0	0.0002506	0.001	1	92%	75	125	0%	
Thallium	A	mg/L	0.04723	0.0486469		0.0515	0	0	0.0001147	0.001	1	94%	75	125	0%	
Thorium	A	mg/L	0.04854	0.0499962		0.0515	0	0	0.000391	0.0042745	1	97%	75	125	0%	
Tin	A	mg/L	0.05502	0.0566706		0.0515	0.006215	0	0.00195	0.001151	0.1	98%	75	125	0%	
Titanium	A	mg/L	0.04929	0.0507687		0.0515	0.006548	0	0.0005905	0.001	1	86%	75	125	0%	
Uranium	A	mg/L	0.05116	0.0526948		0.0515	2.874E-05	0	1.75E-05	0.0003	1	102%	75	125	0%	
Vanadium	A	mg/L	0.06792	0.0699576		0.0515	0.01206	0	0.0040301	0.0021717	1	112%	75	125	0%	
Zinc	A	mg/L	0.2799	0.288297		0.0515	0.2475	0	0.0011966	0.0067511	1		75	125	0%	A
Silica	C	mg/L	40.152784	41.3573675		0	0	0	0.0930021	0.0117246	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	40.152784	41.3573675		0.0515	0	0	0.0930021	0.0117246	5	80306%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009862	CCV	ICPMS-6020-W-	CCV		1/31/2022 10:11:	1	R373996			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					
15009862	CCV	ICPMS-6020-W-	CCV		1/31/2022 10:11:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04498	0.04498		0.05	0	0	0.00086	0.001	1	90%	90	110	0%	
Antimony	A	mg/L	0.05418	0.05418		0.05	0	0	0.00042	0.001	0.1	108%	90	110	0%	
Arsenic	A	mg/L	0.05451	0.05451		0.05	0	0	0.00095	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05694	0.05694		0.05	0	0	0.000042	0.001	1	114%	90	110	0%	S
Beryllium	A	mg/L	0.04188	0.04188		0.05	0	0	0.00012	0.001	1	84%	90	110	0%	S
Boron	A	mg/L	0.04759	0.04759		0.05	0	0	0.00561	0.00561	1	95%	90	110	0%	
Cadmium	A	mg/L	0.05471	0.05471		0.05	0	0	0.000025	0.001	1	109%	90	110	0%	
Calcium	A	mg/L	11.54	11.54		12.5	0	0	0.02092	0.02092	50	92%	90	110	0%	
Cerium	A	mg/L	0.05315	0.05315		0.05	0	0	0.000012	0.001	0.1	106%	90	110	0%	
Chromium	A	mg/L	0.05329	0.05329		0.05	0	0	0.00018	0.001	1	107%	90	110	0%	
Cobalt	A	mg/L	0.05098	0.05098		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Copper	A	mg/L	0.05477	0.05477		0.05	0	0	0.00028	0.001	1	110%	90	110	0%	
Iron	A	mg/L	1.321	1.321		1.3	0	0	0.00119	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.05313	0.05313		0.05	0	0	0.000011	0.001	0.1	106%	90	110	0%	
Lead	A	mg/L	0.05327	0.05327		0.05	0	0	0.000056	0.001	1	107%	90	110	0%	
Magnesium	A	mg/L	13.06	13.06		12.5	0	0	0.00564	0.00564	50	104%	90	110	0%	
Manganese	A	mg/L	0.05411	0.05411		0.05	0	0	0.000095	0.001	1	108%	90	110	0%	
Mercury	A	mg/L	0.0009918	0.0009918		0.001	0	0	0.00016	0.001	0.002	99%	90	110	0%	
Molybdenum	A	mg/L	0.04858	0.04858		0.05	0	0	0.00005	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.05265	0.05265		0.05	0	0	0.00052	0.001	1	105%	90	110	0%	
Potassium	A	mg/L	11.18	11.18		12.5	0	0	0.08139	0.08139	50	89%	90	110	0%	S
Selenium	A	mg/L	0.05769	0.05769		0.05	0	0	0.00033	0.001	1	115%	90	110	0%	S
Silicon	A	mg/L	0.2294	0.2294		0.2	0	0	0.01223	0.1	0.4	115%	90	110	0%	S
Silver	A	mg/L	0.02047	0.02047		0.02	0	0	0.00002	0.001	0.04	102%	90	110	0%	
Sodium	A	mg/L	13.31	13.31		12.5	0	0	0.02171	0.02171	50	106%	90	110	0%	
Strontium	A	mg/L	0.05637	0.05637		0.05	0	0	0.00014	0.001	1	113%	90	110	0%	S
Thallium	A	mg/L	0.05339	0.05339		0.05	0	0	0.000041	0.001	1	107%	90	110	0%	
Thorium	A	mg/L	0.05216	0.05216		0.05	0	0	0.00061	0.001	1	104%	90	110	0%	
Tin	A	mg/L	0.05072	0.05072		0.05	0	0	0.00132	0.00132	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.04829	0.04829		0.05	0	0	0.000094	0.001	1	97%	90	110	0%	
Uranium	A	mg/L	0.05561	0.05561		0.05	0	0	0.000052	0.0003	1	111%	90	110	0%	S
Vanadium	A	mg/L	0.04731	0.04731		0.05	0	0	0.0013	0.0013	1	95%	90	110	0%	
Zinc	A	mg/L	0.05826	0.05826		0.05	0	0	0.00273	0.00273	1	117%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.321	1.321		0	0	0	0.00119	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					
15009863	CCB	ICPMS-6020-W-	CCB		1/31/2022 10:17:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002829	-0.002829		0	0	0	0.00086	0.001	1	0%				0%
Antimony	A	mg/L	0.0001437	0.0001437		0	0	0	0.00042	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0002451	-0.0002451		0	0	0	0.00019	0.001	1	0%				0%
Barium	A	mg/L	1.531E-06	1.531E-06		0	0	0	0.000042	0.001	1	0%				0%
Beryllium	A	mg/L	-0.0001162	-0.0001162		0	0	0	0.00012	0.001	1	0%				0%
Boron	A	mg/L	0.002424	0.002424		0	0	0	0.00561	0.00561	1	0%				0%
Cadmium	A	mg/L	9.807E-06	9.807E-06		0	0	0	0.000025	0.001	1	0%				0%
Calcium	A	mg/L	-0.00474	-0.00474		0	0	0	0.02092	0.02092	50	0%				0%
Cerium	A	mg/L	7.713E-07	7.713E-07		0	0	0	0.000012	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	0.00001641	0.00001641		0	0	0	0.00018	0.001	1	0%				0%
Cobalt	A	mg/L	-1.159E-05	-1.159E-05		0	0	0	0.000042	0.001	1	0%				0%
Copper	A	mg/L	0.0001114	0.0001114		0	0	0	0.00027	0.001	1	0%				0%
Iron	A	mg/L	-0.0007553	-0.0007553		0	0	0	0.00119	0.00119	5	0%				0%
Lanthanum	A	mg/L	-7.194E-07	-7.194E-07		0	0	0	0.000011	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-0.0001644	-0.0001644		0	0	0	0.000056	0.001	1	0%				0%
Magnesium	A	mg/L	0.005302	0.005302		0	0	0	0.00564	0.00564	50	0%				0%
Manganese	A	mg/L	-0.0000218	-0.0000218		0	0	0	0.000095	0.001	1	0%				0%
Mercury	A	mg/L	8.382E-06	8.382E-06		0	0	0	0.00016	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00002036	0.00002036		0	0	0	0.00005	0.001	0.1	0%				0%
Nickel	A	mg/L	-0.000066	-0.000066		0	0	0	0.00063	0.001	1	0%				0%
Potassium	A	mg/L	-0.1084	-0.1084		0	0	0	0.08139	0.08139	50	0%				0%
Selenium	A	mg/L	1.415E-06	1.415E-06		0	0	0	0.00033	0.001	1	0%				0%
Silicon	A	mg/L	0.009265	0.009265		0	0	0	0.01223	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	4.874E-06	4.874E-06		0	0	0	0.00002	0.001	0.04	0%				0%
Sodium	A	mg/L	0.08996	0.08996		0	0	0	0.02171	0.02171	50	0%				0%
Strontium	A	mg/L	4.839E-06	4.839E-06		0	0	0	0.00014	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.000156	0.000156		0	0	0	0.000041	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00008761	0.00008761		0	0	0	0.00061	0.001	1	0%	0	0		0%
Tin	A	mg/L	-5.514E-05	-5.514E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	-5.586E-05	-5.586E-05		0	0	0	0.000094	0.001	1	0%	0	0		0%
Uranium	A	mg/L	0.0000044	0.0000044		0	0	0	0.000052	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	-0.006428	-0.006428		0	0	0	0.0013	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	-3.808E-05	-3.808E-05		0	0	0	0.00273	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	-0.0007553	-0.0007553		0	0	0	0.00119	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					
15009864	B22011717-001	ICPMS-6020-W- MS4			1/31/2022 10:24:	1	163315	1/27/2022 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	0.53	0.53		0.5	0.07505	0	0.0038747	0.0031975	1	91%	75	125	0%	
Antimony	A	mg/L	0.1102	0.1102		0.1	0.003197	0	0.0002799	0.001	0.1	107%	75	125	0%	
Arsenic	A	mg/L	0.1035	0.1035		0.1	0	0	0.0003412	0.001	1	103%	75	125	0%	
Barium	A	mg/L	0.1123	0.1123		0.1	0.0142	0	0.0002682	0.001	1	98%	75	125	0%	
Beryllium	A	mg/L	0.03698	0.03698		0.05	0	0	0.0001071	0.01	1	74%	75	125	0%	S
Boron	A	mg/L	0.1226	0.1226		0.1	0.03649	0	0.0203802	0.01467	1	86%	75	125	0%	
Cadmium	A	mg/L	0.05678	0.05678		0.05	0	0	1.821E-05	0.005	1	114%	75	125	0%	
Calcium	A	mg/L	14.02	14.02		5	9.854	0	0.0372936	0.1103481	50	83%	75	125	0%	
Cerium	A	mg/L	0.1105	0.1105		0.1	0.0001018	0	2.738E-05	0.001	0.1	110%	75	125	0%	
Chromium	A	mg/L	0.101	0.101		0.1	0.003504	0	0.0015375	0.0015375	1	97%	75	125	0%	
Cobalt	A	mg/L	0.09198	0.09198		0.1	0.0001654	0	9.541E-05	0.001	1	92%	75	125	0%	
Copper	A	mg/L	0.1146	0.1146		0.1	0.004721	0	0.0008747	0.00198	1	110%	75	125	0%	
Iron	A	mg/L	0.7128	0.7128		0.5	0.2184	0	0.007424	0.00513	5	99%	75	125	0%	
Lanthanum	A	mg/L	0.1113	0.1113		0.1	5.577E-05	0	0.000055	0.001	0.1	111%	75	125	0%	
Lead	A	mg/L	0.1017	0.1017		0.1	0.0002466	0	7.716E-05	0.001	1	101%	88	115	0%	
Magnesium	A	mg/L	14.5	14.5		5	9.476	0	0.0104254	0.0081522	50	100%	75	125	0%	
Manganese	A	mg/L	0.4985	0.4985		0.5	0.002567	0	0.0005399	0.001	1	99%	75	125	0%	
Molybdenum	A	mg/L	0.09207	0.09207		0.1	0.0002967	0	0.0001763	0.001	0.1	92%	75	125	0%	
Nickel	A	mg/L	0.1052	0.1052		0.1	0.001315	0	0.0002288	0.0024200	1	104%	75	125	0%	
Potassium	A	mg/L	11.32	11.32		5	6.903	0	0.0765619	0.0261205	50	88%	75	125	0%	
Selenium	A	mg/L	0.1052	0.1052		0.1	0.0001704	0	0.0001357	0.001	1	105%	75	125	0%	
Silicon	A	mg/L	21.82	21.82		1	19.27	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009345	0.009345		0.01	0	0	4.281E-05	0.001	0.04	93%	75	125	0%	
Sodium	A	mg/L	43.95	43.95		5	38.39	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.1944	0.1944		0.1	0.0893	0	0.0002433	0.001	1	105%	75	125	0%	
Thallium	A	mg/L	0.09943	0.09943		0.1	0	0	0.0001114	0.001	1	99%	75	125	0%	
Thorium	A	mg/L	0.1049	0.1049		0.1	0	0	0.0003796	0.00415	1	105%	75	125	0%	
Tin	A	mg/L	0.1077	0.1077		0.1	0.006215	0	0.0018932	0.0011175	0.1	101%	75	125	0%	
Titanium	A	mg/L	0.08962	0.08962		0.1	0.006548	0	0.0005733	0.001	1	83%	75	125	0%	
Uranium	A	mg/L	0.1069	0.1069		0.1	2.874E-05	0	1.699E-05	0.0003	1	107%	75	125	0%	
Vanadium	A	mg/L	0.1137	0.1137		0.1	0.01206	0	0.0039127	0.0021085	1	102%	75	125	0%	
Zinc	A	mg/L	0.347	0.347		0.1	0.2475	0	0.0011617	0.0065544	1	100%	75	125	0%	
Silica	C	mg/L	46.677344	46.677344		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	46.677344	46.677344		2.14	0	0	0.0902933	0.0113831	5	2181%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009865	B22011717-001	ICPMS-6020-W-	MSD4		1/31/2022 10:30:	1	163315	1/27/2022 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	0.508	0.508		0.5	0.07505	0.53	0.0038747	0.0031975	1	87%	75	125	4%	
Antimony	A	mg/L	0.1124	0.1124		0.1	0.003197	0.1102	0.0002799	0.001	0.1	109%	75	125	2%	
Arsenic	A	mg/L	0.1029	0.1029		0.1	0	0.1035	0.0003412	0.001	1	103%	75	125	1%	
Barium	A	mg/L	0.117	0.117		0.1	0.0142	0.1123	0.0002682	0.001	1	103%	75	125	4%	
Beryllium	A	mg/L	0.03491	0.03491		0.05	0	0.03698	0.0001071	0.01	1	70%	75	125	6%	S
Boron	A	mg/L	0.1198	0.1198		0.1	0.03649	0.1226	0.0203802	0.01467	1	83%	75	125	2%	
Cadmium	A	mg/L	0.05675	0.05675		0.05	0	0.05678	1.821E-05	0.005	1	113%	75	125	0%	
Calcium	A	mg/L	14.05	14.05		5	9.854	14.02	0.0372936	0.1103481	50	84%	75	125	0%	
Cerium	A	mg/L	0.1118	0.1118		0.1	0.0001018	0.1105	2.738E-05	0.001	0.1	112%	75	125	1%	
Chromium	A	mg/L	0.09996	0.09996		0.1	0.003504	0.101	0.0015375	0.0015375	1	96%	75	125	1%	
Cobalt	A	mg/L	0.08969	0.08969		0.1	0.0001654	0.09198	9.541E-05	0.001	1	90%	75	125	3%	
Copper	A	mg/L	0.1144	0.1144		0.1	0.004721	0.1146	0.0008747	0.00198	1	110%	75	125	0%	
Iron	A	mg/L	0.7004	0.7004		0.5	0.2184	0.7128	0.007424	0.00513	5	96%	75	125	2%	
Lanthanum	A	mg/L	0.1092	0.1092		0.1	5.577E-05	0.1113	0.000055	0.001	0.1	109%	75	125	2%	
Lead	A	mg/L	0.1019	0.1019		0.1	0.0002466	0.1017	7.716E-05	0.001	1	102%	88	115	0%	
Magnesium	A	mg/L	14.4	14.4		5	9.476	14.5	0.0104254	0.0081522	50	98%	75	125	1%	
Manganese	A	mg/L	0.4925	0.4925		0.5	0.002567	0.4985	0.0005399	0.001	1	98%	75	125	1%	
Molybdenum	A	mg/L	0.09424	0.09424		0.1	0.0002967	0.09207	0.0001763	0.001	0.1	94%	75	125	2%	
Nickel	A	mg/L	0.1048	0.1048		0.1	0.001315	0.1052	0.0002288	0.0024200	1	103%	75	125	0%	
Potassium	A	mg/L	10.69	10.69		5	6.903	11.32	0.0765619	0.0261205	50	76%	75	125	6%	
Selenium	A	mg/L	0.1052	0.1052		0.1	0.0001704	0.1052	0.0001357	0.001	1	105%	75	125	0%	
Silicon	A	mg/L	21.88	21.88		1	19.27	21.82	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009534	0.009534		0.01	0	0.009345	4.281E-05	0.001	0.04	95%	75	125	2%	
Sodium	A	mg/L	43.29	43.29		5	38.39	43.95	0.1019461	0.7330269	50		75	125	2%	A
Strontium	A	mg/L	0.1941	0.1941		0.1	0.0893	0.1944	0.0002433	0.001	1	105%	75	125	0%	
Thallium	A	mg/L	0.09933	0.09933		0.1	0	0.09943	0.0001114	0.001	1	99%	75	125	0%	
Thorium	A	mg/L	0.105	0.105		0.1	0	0.1049	0.0003796	0.00415	1	105%	75	125	0%	
Tin	A	mg/L	0.1106	0.1106		0.1	0.006215	0.1077	0.0018932	0.0011175	0.1	104%	75	125	3%	
Titanium	A	mg/L	0.08693	0.08693		0.1	0.006548	0.08962	0.0005733	0.001	1	80%	75	125	3%	
Uranium	A	mg/L	0.1066	0.1066		0.1	2.874E-05	0.1069	1.699E-05	0.0003	1	107%	75	125	0%	
Vanadium	A	mg/L	0.1109	0.1109		0.1	0.01206	0.1137	0.0039127	0.0021085	1	99%	75	125	2%	
Zinc	A	mg/L	0.3498	0.3498		0.1	0.2475	0.347	0.0011617	0.0065544	1	102%	75	125	1%	
Silica	C	mg/L	46.805696	46.805696		0	0	46.677344	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	46.805696	46.805696		2.14	0	46.677344	0.0902933	0.0113831	5	2187%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009866	Rinse	ICPMS-6020-W-	SAMP		1/31/2022 10:36:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	8.583E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-1.96E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002923	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.431E-05	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.000153	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.425E-05	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	6.472E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001153	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silver	A	mg/L	-6.296E-07	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0002015	0.0002015		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0001008	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0000876	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	-0.0008461	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0008461	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-3.311E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009867	CCV	ICPMS-6020-W-	CCV		1/31/2022 10:42:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04153	0.04153		0.05	0	0	0.00086	0.001	1	83%	90	110	0%	S
Antimony	A	mg/L	0.05462	0.05462		0.05	0	0	0.00042	0.001	0.1	109%	90	110	0%	
Arsenic	A	mg/L	0.05475	0.05475		0.05	0	0	0.00019	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05687	0.05687		0.05	0	0	0.000042	0.001	1	114%	90	110	0%	S
Beryllium	A	mg/L	0.03719	0.03719		0.05	0	0	0.00012	0.001	1	74%	90	110	0%	S
Boron	A	mg/L	0.04256	0.04256		0.05	0	0	0.00561	0.00561	1	85%	90	110	0%	S
Cadmium	A	mg/L	0.05499	0.05499		0.05	0	0	0.000025	0.001	1	110%	90	110	0%	
Calcium	A	mg/L	10.95	10.95		12.5	0	0	0.02092	0.02092	50	88%	90	110	0%	S
Cerium	A	mg/L	0.05384	0.05384		0.05	0	0	0.000012	0.001	0.1	108%	90	110	0%	
Chromium	A	mg/L	0.05294	0.05294		0.05	0	0	0.00018	0.001	1	106%	90	110	0%	
Cobalt	A	mg/L	0.05051	0.05051		0.05	0	0	0.000042	0.001	1	101%	90	110	0%	
Copper	A	mg/L	0.05398	0.05398		0.05	0	0	0.00028	0.001	1	108%	90	110	0%	
Iron	A	mg/L	1.261	1.261		1.3	0	0	0.00119	0.00119	5	97%	90	110	0%	
Lanthanum	A	mg/L	0.05291	0.05291		0.05	0	0	0.000011	0.001	0.1	106%	90	110	0%	
Lead	A	mg/L	0.05324	0.05324		0.05	0	0	0.000056	0.001	1	106%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009867	CCV	ICPMS-6020-W-	CCV		1/31/2022 10:42:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	12.56	12.56		12.5	0	0	0.00564	0.00564	50	100%	90	110	0%	
Manganese	A	mg/L	0.05204	0.05204		0.05	0	0	0.000095	0.001	1	104%	90	110	0%	
Mercury	A	mg/L	0.0009788	0.0009788		0.001	0	0	0.00016	0.001	0.002	98%	90	110	0%	
Molybdenum	A	mg/L	0.04743	0.04743		0.05	0	0	0.00005	0.001	0.1	95%	90	110	0%	
Nickel	A	mg/L	0.05194	0.05194		0.05	0	0	0.00052	0.001	1	104%	90	110	0%	
Potassium	A	mg/L	10.37	10.37		12.5	0	0	0.08139	0.08139	50	83%	90	110	0%	S
Selenium	A	mg/L	0.0563	0.0563		0.05	0	0	0.00033	0.001	1	113%	90	110	0%	S
Silicon	A	mg/L	0.21	0.21		0.2	0	0	0.01223	0.1	0.4	105%	90	110	0%	
Silver	A	mg/L	0.02036	0.02036		0.02	0	0	0.00002	0.001	0.04	102%	90	110	0%	
Sodium	A	mg/L	13	13		12.5	0	0	0.02171	0.02171	50	104%	90	110	0%	
Strontium	A	mg/L	0.05584	0.05584		0.05	0	0	0.00014	0.001	1	112%	90	110	0%	S
Thallium	A	mg/L	0.05328	0.05328		0.05	0	0	0.000041	0.001	1	107%	90	110	0%	
Thorium	A	mg/L	0.05243	0.05243		0.05	0	0	0.00061	0.001	1	105%	90	110	0%	
Tin	A	mg/L	0.0512	0.0512		0.05	0	0	0.00132	0.00132	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.0454	0.0454		0.05	0	0	0.000094	0.001	1	91%	90	110	0%	
Uranium	A	mg/L	0.05631	0.05631		0.05	0	0	0.000052	0.0003	1	113%	90	110	0%	S
Vanadium	A	mg/L	0.04166	0.04166		0.05	0	0	0.0013	0.0013	1	83%	90	110	0%	S
Zinc	A	mg/L	0.0566	0.0566		0.05	0	0	0.00273	0.00273	1	113%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.261	1.261		0	0	0	0.00119	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					
15009868	CCB	ICPMS-6020-W-	CCB		1/31/2022 10:49:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.002651	-0.002651		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.0001104	0.0001104		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0003866	-0.0003866		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	1.143E-06	1.143E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.0001177	-0.0001177		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001913	0.001913		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	-1.313E-07	-1.313E-07		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.005787	-0.005787		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	2.217E-07	2.217E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002534	0.00002534		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-1.301E-05	-1.301E-05		0	0	0	0.000042	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					
15009868	CCB	ICPMS-6020-W-	CCB		1/31/2022 10:49:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.00007785	0.00007785		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	-0.0007662	-0.0007662		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-6.849E-07	-6.849E-07		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-0.0001658	-0.0001658		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.006873	0.006873		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-2.087E-05	-2.087E-05		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00000949	0.00000949		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00003226	0.00003226		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.0000407	-0.0000407		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.1334	-0.1334		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-1.125E-05	-1.125E-05		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.003624	0.003624		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-9.055E-07	-9.055E-07		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.1126	0.1126		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	6.583E-06	6.583E-06		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001796	0.0001796		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00009163	0.00009163		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-4.623E-05	-4.623E-05		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001066	-0.0001066		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.891E-06	3.891E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.008416	-0.008416		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-2.551E-05	-2.551E-05		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0007662	-0.0007662		0	0	0	0.00119	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					
15009869	Cal Blk	ICPMS-6020-W-	SAMP		1/31/2022 10:55:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	0	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	0	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0	0		0	0	0	0.000095	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					
15009869	Cal Blk	ICPMS-6020-W-	SAMP		1/31/2022 10:55:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Mercury	A	mg/L	0	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	0	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Sodium	B	mg/L	0	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009870	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/31/2022 11:01:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002242	0.0002242		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00001073	0.00001073		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00002273	0.00002273	0.000025	0	0	0		0.001		91%	80	120	0%	
Barium	A	mg/L	0.0000265	0.0000265	0.000025	0	0	0		0.0003		106%	80	120	0%	
Beryllium	A	mg/L	0.00001066	0.00001066	0.000025	0	0	0		0.001		43%	80	120	0%	S
Boron	A	mg/L	-7.861E-05	-7.861E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00002445	0.00002445	0.000025	0	0	0		0.001		98%	80	120	0%	
Calcium	A	mg/L	0.008425	0.008425		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00002945	0.00002945	0.000025	0	0	0		0.001		118%	80	120	0%	
Chromium	A	mg/L	0.00004117	0.00004117	0.000025	0	0	0		0.001		165%	80	120	0%	S
Cobalt	A	mg/L	0.00002909	0.00002909	0.000025	0	0	0		0.001		116%	80	120	0%	
Copper	A	mg/L	0.0000194	0.0000194		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0006558	0.0006558		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.0000239	0.0000239	0.000025	0	0	0		0.001		96%	80	120	0%	
Lead	A	mg/L	0.00001883	0.00001883	0.000025	0	0	0		0.001		75%	80	120	0%	S
Lithium	A	mg/L	0.0005432	0.0005432	0.0003125	0	0	0		1		174%	80	120	0%	S
Magnesium	A	mg/L	0.006132	0.006132		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00002364	0.00002364		0	0	0		0.001		0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009870	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/31/2022 11:01:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Mercury	A	mg/L	-2.241E-06	-2.241E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00002139	0.00002139		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00002825	0.00002825		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.004531	0.004531		0.00625	0	0		1		72%	80	120	0%	S
Selenium	A	mg/L	0.000047	0.000047		0.000025	0	0		0.005		188%	80	120	0%	S
Silicon	A	mg/L	-0.0002991	-0.0002991		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002047	0.00002047		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.01205	0.01205		0.00625	0	0		1		193%	80	120	0%	S
Strontium	A	mg/L	0.00003136	0.00003136		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	-1.807E-05	-1.807E-05		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	-2.325E-07	-2.325E-07		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0008169	0.0008169		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00003872	0.00003872		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00002297	0.00002297		0.000025	0	0		0.001		92%	80	120	0%	
Vanadium	A	mg/L	0.0004422	0.0004422		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001792	0.0001792		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0006558	0.0006558		0.000025	0	0		0.01	5	2623%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0006401	-0.0006401		0.0000535	0	0		0.214	0.9	-1196%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009871	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/31/2022 11:08:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000183	0.000183		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00002986	0.00002986		0.00005	0	0		0.001		60%	80	120	0%	S
Arsenic	A	mg/L	0.00002583	0.00002583		0.00005	0	0		0.001		52%	80	120	0%	S
Barium	A	mg/L	0.00005316	0.00005316		0.00005	0	0		0.0003		106%	80	120	0%	
Beryllium	A	mg/L	0.00004174	0.00004174		0.00005	0	0		0.001		83%	80	120	0%	
Boron	A	mg/L	-0.0004282	-0.0004282		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00004695	0.00004695		0.00005	0	0		0.001		94%	80	120	0%	
Calcium	A	mg/L	0.01376	0.01376		0.0125	0	0		1		110%	80	120	0%	
Cerium	A	mg/L	0.00005072	0.00005072		0.00005	0	0		0.001		101%	80	120	0%	
Chromium	A	mg/L	0.00005237	0.00005237		0.00005	0	0		0.001		105%	80	120	0%	
Cobalt	A	mg/L	0.00005254	0.00005254		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00004309	0.00004309		0.00005	0	0		0.005		86%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009871	0.05 ppb STD	ICPMS-6020B-C Cal2			1/31/2022 11:08:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	A	mg/L	0.001376	0.001376		0.00125	0	0		0.01		110%	80	120	0%	
Lanthanum	A	mg/L	0.00005191	0.00005191		0.00005	0	0		0.001		104%	80	120	0%	
Lead	A	mg/L	0.00003377	0.00003377		0.00005	0	0		0.001		68%	80	120	0%	S
Lithium	A	mg/L	0.0009815	0.0009815		0.000625	0	0		1		157%	80	120	0%	S
Magnesium	A	mg/L	0.01331	0.01331		0.0125	0	0		1		106%	80	120	0%	
Manganese	A	mg/L	0.00005392	0.00005392		0.00005	0	0		0.001		108%	80	120	0%	
Mercury	A	mg/L	2.152E-06	2.152E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00004629	0.00004629		0.00005	0	0		0.001		93%	80	120	0%	
Nickel	A	mg/L	0.00002371	0.00002371		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	-0.008921	-0.008921		0.0125	0	0		1		-71%	80	120	0%	S
Selenium	A	mg/L	0.00005878	0.00005878		0.00005	0	0		0.005		118%	80	120	0%	
Silicon	A	mg/L	-0.0005544	-0.0005544		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00003112	0.00003112		0.00002	0	0		0.001		156%	80	120	0%	S
Sodium	A	mg/L	0.01457	0.01457		0.0125	0	0		1		117%	80	120	0%	
Strontium	A	mg/L	0.00006678	0.00006678		0.00005	0	0		0.001		134%	80	120	0%	S
Thallium	A	mg/L	-0.0000157	-0.0000157		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	7.285E-06	7.285E-06		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0008522	0.0008522		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00009098	0.00009098		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00005309	0.00005309		0.00005	0	0		0.001		106%	80	120	0%	
Vanadium	A	mg/L	-0.0001548	-0.0001548		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.000101	0.000101		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001376	0.001376		0.00005	0	0		0.01	5	2752%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0011864	-0.0011864		0.00428	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					
15009872	0.10 ppb STD	ICPMS-6020B-C Cal3			1/31/2022 11:14:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00009745	0.00009745		0.0001	0	0		0.01		97%	80	120	0%	
Antimony	A	mg/L	0.00008197	0.00008197		0.0001	0	0		0.001		82%	80	120	0%	
Arsenic	A	mg/L	0.00008241	0.00008241		0.0001	0	0		0.001		82%	80	120	0%	
Barium	A	mg/L	0.0001015	0.0001015		0.0001	0	0		0.0003		102%	80	120	0%	
Beryllium	A	mg/L	0.0001047	0.0001047		0.0001	0	0		0.001		105%	80	120	0%	
Boron	A	mg/L	-0.0007056	-0.0007056		0	0	0		0.1		0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009872	0.10 ppb STD	ICPMS-6020B-C Cal3			1/31/2022 11:14:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.0001079	0.0001079		0.0001	0	0		0.001		108%	80	120	0%	
Calcium	A	mg/L	0.02836	0.02836		0.025	0	0		1		113%	80	120	0%	
Cerium	A	mg/L	0.0001181	0.0001181		0.0001	0	0		0.001		118%	80	120	0%	
Chromium	A	mg/L	0.0001231	0.0001231		0.0001	0	0		0.001		123%	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	0.00008975	0.00008975		0.0001	0	0		0.005		90%	80	120	0%	
Iron	A	mg/L	0.00297	0.00297		0.0025	0	0		0.01		119%	80	120	0%	
Lanthanum	A	mg/L	0.0001182	0.0001182		0.0001	0	0		0.001		118%	80	120	0%	
Lead	A	mg/L	0.00009247	0.00009247		0.0001	0	0		0.001		92%	80	120	0%	
Lithium	A	mg/L	0.001607	0.001607		0.00125	0	0		1		129%	80	120	0%	S
Magnesium	A	mg/L	0.02963	0.02963		0.025	0	0		1		119%	80	120	0%	
Manganese	A	mg/L	0.0001061	0.0001061		0.0001	0	0		0.001		106%	80	120	0%	
Mercury	A	mg/L	-1.019E-06	-1.019E-06		0.000002	0	0		0.001		-51%	80	120	0%	S
Molybdenum	A	mg/L	0.00009237	0.00009237		0.0001	0	0		0.001		92%	80	120	0%	
Nickel	A	mg/L	0.0001138	0.0001138		0.0001	0	0		0.005		114%	80	120	0%	
Potassium	A	mg/L	0.009445	0.009445		0.025	0	0		1		38%	80	120	0%	S
Selenium	A	mg/L	0.0001094	0.0001094		0.0001	0	0		0.005		109%	80	120	0%	
Silicon	A	mg/L	0.0001716	0.0001716		0.0004	0	0		0.1		43%	80	120	0%	S
Silver	A	mg/L	0.00005054	0.00005054		0.00004	0	0		0.001		126%	80	120	0%	S
Sodium	A	mg/L	0.0231	0.0231		0.025	0	0		1		92%	80	120	0%	
Strontium	A	mg/L	0.0001026	0.0001026		0.0001	0	0		0.001		103%	80	120	0%	
Thallium	A	mg/L	0.00002802	0.00002802		0.0001	0	0		0.001		28%	80	120	0%	S
Thorium	A	mg/L	0.00003156	0.00003156		0.0001	0	0		0.05		32%	80	120	0%	S
Tin	A	mg/L	0.0008647	0.0008647		0.0001	0	0		0.001		865%	80	120	0%	S
Titanium	A	mg/L	0.0001606	0.0001606		0.0001	0	0		0.001		161%	80	120	0%	S
Uranium	A	mg/L	0.000104	0.000104		0.0001	0	0		0.001		104%	80	120	0%	
Vanadium	A	mg/L	-0.0002307	-0.0002307		0.0001	0	0		0.005		-231%	80	120	0%	S
Zinc	A	mg/L	0.0001079	0.0001079		0.0001	0	0		0.01		108%	80	120	0%	
Iron, Ferrous	C	mg/L	0.00297	0.00297		0.0001	0	0		0.01	5	2970%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00036722	0.00036722		0.00856	0	0		0.214	0.9	4%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009873	0.5 ppb STD	ICPMS-6020B-C Cal4			1/31/2022 11:20:	1	R373996		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					
15009873	0.5 ppb STD	ICPMS-6020B-C Cal4			1/31/2022 11:20:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0003606	0.0003606		0.0005	0	0		0.01		72%	80	120	0%	S
Antimony	A	mg/L	0.0004703	0.0004703		0.0005	0	0		0.001		94%	80	120	0%	
Arsenic	A	mg/L	0.0004817	0.0004817		0.0005	0	0		0.001		96%	80	120	0%	
Barium	A	mg/L	0.0005549	0.0005549		0.0005	0	0		0.0003		111%	80	120	0%	
Beryllium	A	mg/L	0.0004706	0.0004706		0.0005	0	0		0.001		94%	80	120	0%	
Boron	A	mg/L	-0.0004814	-0.0004814		0.0005	0	0		0.1		-96%	80	120	0%	S
Cadmium	A	mg/L	0.0004942	0.0004942		0.0005	0	0		0.001		99%	80	120	0%	
Calcium	A	mg/L	0.1313	0.1313		0.125	0	0		1		105%	80	120	0%	
Cerium	A	mg/L	0.000526	0.000526		0.0005	0	0		0.001		105%	80	120	0%	
Chromium	A	mg/L	0.0005646	0.0005646		0.0005	0	0		0.001		113%	80	120	0%	
Cobalt	A	mg/L	0.0005077	0.0005077		0.0005	0	0		0.001		102%	80	120	0%	
Copper	A	mg/L	0.00055	0.00055		0.0005	0	0		0.005		110%	80	120	0%	
Iron	A	mg/L	0.01384	0.01384		0.0125	0	0		0.01		111%	80	120	0%	
Lanthanum	A	mg/L	0.0005385	0.0005385		0.0005	0	0		0.001		108%	80	120	0%	
Lead	A	mg/L	0.0004491	0.0004491		0.0005	0	0		0.001		90%	80	120	0%	
Lithium	A	mg/L	0.00588	0.00588		0.00625	0	0		1		94%	80	120	0%	
Magnesium	A	mg/L	0.1367	0.1367		0.125	0	0		1		109%	80	120	0%	
Manganese	A	mg/L	0.0005081	0.0005081		0.0005	0	0		0.001		102%	80	120	0%	
Mercury	A	mg/L	8.005E-06	8.005E-06		0.00001	0	0		0.001		80%	80	120	0%	
Molybdenum	A	mg/L	0.0004697	0.0004697		0.0005	0	0		0.001		94%	80	120	0%	
Nickel	A	mg/L	0.0005292	0.0005292		0.0005	0	0		0.005		106%	80	120	0%	
Potassium	A	mg/L	0.1039	0.1039		0.125	0	0		1		83%	80	120	0%	
Selenium	A	mg/L	0.0005083	0.0005083		0.0005	0	0		0.005		102%	80	120	0%	
Silicon	A	mg/L	0.0004138	0.0004138		0.002	0	0		0.1		21%	80	120	0%	S
Silver	A	mg/L	0.0002129	0.0002129		0.0002	0	0		0.001		106%	80	120	0%	
Sodium	A	mg/L	0.1348	0.1348		0.125	0	0		1		108%	80	120	0%	
Strontium	A	mg/L	0.0005817	0.0005817		0.0005	0	0		0.001		116%	80	120	0%	
Thallium	A	mg/L	0.0004072	0.0004072		0.0005	0	0		0.001		81%	80	120	0%	
Thorium	A	mg/L	0.0003033	0.0003033		0.0005	0	0		0.05		61%	80	120	0%	S
Tin	A	mg/L	0.001031	0.001031		0.0005	0	0		0.001		206%	80	120	0%	S
Titanium	A	mg/L	0.000516	0.000516		0.0005	0	0		0.001		103%	80	120	0%	
Uranium	A	mg/L	0.000476	0.000476		0.0005	0	0		0.001		95%	80	120	0%	
Vanadium	A	mg/L	0.0001074	0.0001074		0.0005	0	0		0.005		21%	80	120	0%	S
Zinc	A	mg/L	0.0006873	0.0006873		0.0005	0	0		0.01		137%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.01384	0.01384		0.0005	0	0		0.01	5	2768%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009873	0.5 ppb STD	ICPMS-6020B-C Cal4			1/31/2022 11:20:	1	R373996		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	0.00088553	0.00088553		0.0428	0	0		0.214	0.9	2%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009874	1 ppb STD	ICPMS-6020B-C Cal5			1/31/2022 11:27:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001111	0.001111		0.001	0	0		0.01		111%	80	120	0%	
Antimony	A	mg/L	0.001007	0.001007		0.001	0	0		0.001		101%	80	120	0%	
Arsenic	A	mg/L	0.001073	0.001073		0.001	0	0		0.001		107%	80	120	0%	
Barium	A	mg/L	0.001058	0.001058		0.001	0	0		0.0003		106%	80	120	0%	
Beryllium	A	mg/L	0.001003	0.001003		0.001	0	0		0.001		100%	80	120	0%	
Boron	A	mg/L	0.0000405	0.0000405		0.001	0	0		0.1		4%	80	120	0%	S
Cadmium	A	mg/L	0.001011	0.001011		0.001	0	0		0.001		101%	80	120	0%	
Calcium	A	mg/L	0.2738	0.2738		0.25	0	0		1		110%	80	120	0%	
Cerium	A	mg/L	0.00114	0.00114		0.001	0	0		0.001		114%	80	120	0%	
Chromium	A	mg/L	0.001148	0.001148		0.001	0	0		0.001		115%	80	120	0%	
Cobalt	A	mg/L	0.001054	0.001054		0.001	0	0		0.001		105%	80	120	0%	
Copper	A	mg/L	0.001216	0.001216		0.001	0	0		0.005		122%	80	120	0%	S
Iron	A	mg/L	0.029	0.029		0.025	0	0		0.01		116%	80	120	0%	
Lanthanum	A	mg/L	0.00111	0.00111		0.001	0	0		0.001		111%	80	120	0%	
Lead	A	mg/L	0.001008	0.001008		0.001	0	0		0.001		101%	80	120	0%	
Lithium	A	mg/L	0.01326	0.01326		0.0125	0	0		1		106%	80	120	0%	
Magnesium	A	mg/L	0.29	0.29		0.25	0	0		1		116%	80	120	0%	
Manganese	A	mg/L	0.001117	0.001117		0.001	0	0		0.001		112%	80	120	0%	
Mercury	A	mg/L	0.00001826	0.00001826		0.00002	0	0		0.001		91%	80	120	0%	
Molybdenum	A	mg/L	0.00102	0.00102		0.001	0	0		0.001		102%	80	120	0%	
Nickel	A	mg/L	0.001154	0.001154		0.001	0	0		0.005		115%	80	120	0%	
Potassium	A	mg/L	0.2425	0.2425		0.25	0	0		1		97%	80	120	0%	
Selenium	A	mg/L	0.001166	0.001166		0.001	0	0		0.005		117%	80	120	0%	
Silicon	A	mg/L	0.003419	0.003419		0.004	0	0		0.1		85%	80	120	0%	
Silver	A	mg/L	0.0004376	0.0004376		0.0004	0	0		0.001		109%	80	120	0%	
Sodium	A	mg/L	0.289	0.289		0.25	0	0		1		116%	80	120	0%	
Strontium	A	mg/L	0.001161	0.001161		0.001	0	0		0.001		116%	80	120	0%	
Thallium	A	mg/L	0.0009403	0.0009403		0.001	0	0		0.001		94%	80	120	0%	
Thorium	A	mg/L	0.0007776	0.0007776		0.001	0	0		0.05		78%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009874	1 ppb STD	ICPMS-6020B-C	Cal5		1/31/2022 11:27:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.001983	0.001983		0.001	0	0		0.001		198%	80	120	0%	S
Titanium	A	mg/L	0.001065	0.001065		0.001	0	0		0.001		106%	80	120	0%	
Uranium	A	mg/L	0.001018	0.001018		0.001	0	0		0.001		102%	80	120	0%	
Vanadium	A	mg/L	0.0006454	0.0006454		0.001	0	0		0.005		65%	80	120	0%	S
Zinc	A	mg/L	0.001237	0.001237		0.001	0	0		0.01		124%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.029	0.029		0.001	0	0		0.01	5	2900%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00731666	0.00731666		0.0856	0	0		0.214	0.9	9%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009875	10 ppb STD	ICPMS-6020B-C	Cal6		1/31/2022 11:33:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.009716	0.009716		0.01	0	0		0.01		97%	90	110	0%	
Antimony	A	mg/L	0.009673	0.009673		0.01	0	0		0.001		97%	90	110	0%	
Arsenic	A	mg/L	0.01052	0.01052		0.01	0	0		0.001		105%	90	110	0%	
Barium	A	mg/L	0.009727	0.009727		0.01	0	0		0.0003		97%	90	110	0%	
Beryllium	A	mg/L	0.009478	0.009478		0.01	0	0		0.001		95%	90	110	0%	
Boron	A	mg/L	0.008525	0.008525		0.01	0	0		0.1		85%	90	110	0%	S
Cadmium	A	mg/L	0.009668	0.009668		0.01	0	0		0.001		97%	90	110	0%	
Calcium	A	mg/L	2.581	2.581		2.5	0	0		1		103%	90	110	0%	
Cerium	A	mg/L	0.01045	0.01045		0.01	0	0		0.001		104%	90	110	0%	
Chromium	A	mg/L	0.01034	0.01034		0.01	0	0		0.001		103%	90	110	0%	
Cobalt	A	mg/L	0.009963	0.009963		0.01	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.01146	0.01146		0.01	0	0		0.005		115%	90	110	0%	S
Iron	A	mg/L	0.2723	0.2723		0.25	0	0		0.01		109%	90	110	0%	
Lanthanum	A	mg/L	0.01049	0.01049		0.01	0	0		0.001		105%	90	110	0%	
Lead	A	mg/L	0.009342	0.009342		0.01	0	0		0.001		93%	90	110	0%	
Lithium	A	mg/L	0.1174	0.1174		0.125	0	0		1		94%	90	110	0%	
Magnesium	A	mg/L	2.855	2.855		2.5	0	0		1		114%	90	110	0%	S
Manganese	A	mg/L	0.01068	0.01068		0.01	0	0		0.001		107%	90	110	0%	
Mercury	A	mg/L	0.0001971	0.0001971		0.0002	0	0		0.001		99%	90	110	0%	
Molybdenum	A	mg/L	0.009547	0.009547		0.01	0	0		0.001		95%	90	110	0%	
Nickel	A	mg/L	0.011	0.011		0.01	0	0		0.005		110%	90	110	0%	
Potassium	A	mg/L	2.512	2.512		2.5	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.01057	0.01057		0.01	0	0		0.005		106%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009875	10 ppb STD	ICPMS-6020B-C Cal6			1/31/2022 11:33:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.0377	0.0377		0.04	0	0		0.1		94%	90	110	0%	
Silver	A	mg/L	0.003984	0.003984		0.004	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	2.721	2.721		2.5	0	0		1		109%	90	110	0%	
Strontium	A	mg/L	0.01088	0.01088		0.01	0	0		0.001		109%	90	110	0%	
Thallium	A	mg/L	0.00968	0.00968		0.01	0	0		0.001		97%	90	110	0%	
Thorium	A	mg/L	0.009295	0.009295		0.01	0	0		0.05		93%	90	110	0%	
Tin	A	mg/L	0.01077	0.01077		0.01	0	0		0.001		108%	90	110	0%	
Titanium	A	mg/L	0.0105	0.0105		0.01	0	0		0.001		105%	90	110	0%	
Uranium	A	mg/L	0.009521	0.009521		0.01	0	0		0.001		95%	90	110	0%	
Vanadium	A	mg/L	0.01031	0.01031		0.01	0	0		0.005		103%	90	110	0%	
Zinc	A	mg/L	0.01131	0.01131		0.01	0	0		0.01		113%	90	110	0%	S
Iron, Ferrous	C	mg/L	0.2723	0.2723		0.01	0	0		0.01	5	2723%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.080678	0.080678		0.856	0	0		0.214	0.9	9%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009876	50 ppb STD	ICPMS-6020B-C Cal7			1/31/2022 11:40:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05062	0.05062		0.05	0	0		0.01		101%	90	110	0%	
Antimony	A	mg/L	0.05277	0.05277		0.05	0	0		0.001		106%	90	110	0%	
Arsenic	A	mg/L	0.05255	0.05255		0.05	0	0		0.001		105%	90	110	0%	
Barium	A	mg/L	0.05255	0.05255		0.05	0	0		0.0003		105%	90	110	0%	
Beryllium	A	mg/L	0.05027	0.05027		0.05	0	0		0.001		101%	90	110	0%	
Boron	A	mg/L	0.05118	0.05118		0.05	0	0		0.1		102%	90	110	0%	
Cadmium	A	mg/L	0.05157	0.05157		0.05	0	0		0.001		103%	90	110	0%	
Calcium	A	mg/L	11.97	11.97		12.5	0	0		1		96%	90	110	0%	
Cerium	A	mg/L	0.04982	0.04982		0.05	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.05105	0.05105		0.05	0	0		0.001		102%	90	110	0%	
Cobalt	A	mg/L	0.04992	0.04992		0.05	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.05536	0.05536		0.05	0	0		0.005		111%	90	110	0%	S
Iron	A	mg/L	1.292	1.292		1.25	0	0		0.01		103%	90	110	0%	
Lanthanum	A	mg/L	0.04948	0.04948		0.05	0	0		0.001		99%	90	110	0%	
Lead	A	mg/L	0.05159	0.05159		0.05	0	0		0.001		103%	90	110	0%	
Lithium	A	mg/L	0.5681	0.5681		0.625	0	0		1		91%	90	110	0%	
Magnesium	A	mg/L	12.39	12.39		12.5	0	0		1		99%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009876	50 ppb STD	ICPMS-6020B-C	Cal7		1/31/2022 11:40:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.05241	0.05241		0.05	0	0		0.001		105%	90	110	0%	
Mercury	A	mg/L	0.0009552	0.0009552		0.001	0	0		0.001		96%	90	110	0%	
Molybdenum	A	mg/L	0.05023	0.05023		0.05	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.05302	0.05302		0.05	0	0		0.005		106%	90	110	0%	
Potassium	A	mg/L	11.3	11.3		12.5	0	0		1		90%	90	110	0%	
Selenium	A	mg/L	0.05472	0.05472		0.05	0	0		0.005		109%	90	110	0%	
Silicon	A	mg/L	0.2128	0.2128		0.2	0	0		0.1		106%	90	110	0%	
Silver	A	mg/L	0.02072	0.02072		0.02	0	0		0.001		104%	90	110	0%	
Sodium	A	mg/L	12.49	12.49		12.5	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.05411	0.05411		0.05	0	0		0.001		108%	90	110	0%	
Thallium	A	mg/L	0.05131	0.05131		0.05	0	0		0.001		103%	90	110	0%	
Thorium	A	mg/L	0.05173	0.05173		0.05	0	0		0.05		103%	90	110	0%	
Tin	A	mg/L	0.05135	0.05135		0.05	0	0		0.001		103%	90	110	0%	
Titanium	A	mg/L	0.05058	0.05058		0.05	0	0		0.001		101%	90	110	0%	
Uranium	A	mg/L	0.05383	0.05383		0.05	0	0		0.001		108%	90	110	0%	
Vanadium	A	mg/L	0.04898	0.04898		0.05	0	0		0.005		98%	90	110	0%	
Zinc	A	mg/L	0.05422	0.05422		0.05	0	0		0.01		108%	90	110	0%	
Iron, Ferrous	C	mg/L	1.292	1.292		0.05	0	0		0.01	5	2584%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.455392	0.455392		4.28	0	0		0.214	0.9	11%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009877	100 ppb STD	ICPMS-6020B-C	Cal8		1/31/2022 11:46:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09626	0.09626		0.1	0	0		0.01		96%	90	110	0%	
Antimony	A	mg/L	0.09865	0.09865		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.1013	0.1013		0.1	0	0		0.001		101%	90	110	0%	
Barium	A	mg/L	0.1008	0.1008		0.1	0	0		0.0003		101%	90	110	0%	
Beryllium	A	mg/L	0.09167	0.09167		0.1	0	0		0.001		92%	90	110	0%	
Boron	A	mg/L	0.09488	0.09488		0.1	0	0		0.1		95%	90	110	0%	
Cadmium	A	mg/L	0.0974	0.0974		0.1	0	0		0.001		97%	90	110	0%	
Calcium	A	mg/L	24.4	24.4		25	0	0		1		98%	90	110	0%	
Cerium	A	mg/L	0.1	0.1		0.1	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.09763	0.09763		0.1	0	0		0.001		98%	90	110	0%	
Cobalt	A	mg/L	0.09539	0.09539		0.1	0	0		0.001		95%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009877	100 ppb STD	ICPMS-6020B-C Cal8			1/31/2022 11:46:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.1042	0.1042		0.1	0	0		0.005		104%	90	110	0%	
Iron	A	mg/L	2.576	2.576		2.5	0	0		0.01		103%	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	0.09614	0.09614		0.1	0	0		0.001		96%	90	110	0%	
Lithium	A	mg/L	1.113	1.113		1.25	0	0		1		89%	90	110	0%	S
Magnesium	A	mg/L	24.96	24.96		25	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.1005	0.1005		0.1	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.002023	0.002023		0.002	0	0		0.001		101%	90	110	0%	
Molybdenum	A	mg/L	0.09993	0.09993		0.1	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.1008	0.1008		0.1	0	0		0.005		101%	90	110	0%	
Potassium	A	mg/L	24.6	24.6		25	0	0		1		98%	90	110	0%	
Selenium	A	mg/L	0.1018	0.1018		0.1	0	0		0.005		102%	90	110	0%	
Silicon	A	mg/L	0.3938	0.3938		0.4	0	0		0.1		98%	90	110	0%	
Silver	A	mg/L	0.03964	0.03964		0.04	0	0		0.001		99%	90	110	0%	
Sodium	A	mg/L	24.72	24.72		25	0	0		1		99%	90	110	0%	
Strontium	A	mg/L	0.1038	0.1038		0.1	0	0		0.001		104%	90	110	0%	
Thallium	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.1017	0.1017		0.1	0	0		0.05		102%	90	110	0%	
Tin	A	mg/L	0.09923	0.09923		0.1	0	0		0.001		99%	90	110	0%	
Titanium	A	mg/L	0.09966	0.09966		0.1	0	0		0.001		100%	90	110	0%	
Uranium	A	mg/L	0.0993	0.0993		0.1	0	0		0.001		99%	90	110	0%	
Vanadium	A	mg/L	0.0954	0.0954		0.1	0	0		0.005		95%	90	110	0%	
Zinc	A	mg/L	0.1044	0.1044		0.1	0	0		0.01		104%	90	110	0%	
Iron, Ferrous	C	mg/L	2.576	2.576		0.1	0	0		0.01	5	2576%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.842732	0.842732		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					
15009878	1000 ppb STD	ICPMS-6020B-C Cal10			1/31/2022 11:52:	1	R373996		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	0.0001971	0.0001971		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	0.9998	0.9998		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					
15009878	1000 ppb STD	ICPMS-6020B-C	Cal10		1/31/2022 11:52:	1	R373996		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	50.43	50.43		50	0	0		1		101%	90	110	0%	
Cerium	A	mg/L	0.00002237	0.00002237		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	0.9993	0.9993		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.012	6.012		6	0	0		0.01		100%	90	110	0%	
Lanthanum	A	mg/L	7.457E-06	7.457E-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	2.583	2.583		2.5	0	0		1		103%	90	110	0%	
Magnesium	A	mg/L	50.03	50.03		50	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.9998	0.9998		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	0.00001615	0.00001615		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0001037	0.0001037		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9998	0.9998		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.5	50.5		50	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.9996	0.9996		1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	-0.001258	-0.001258		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.3419	0.3419		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	50.13	50.13		50	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.9994	0.9994		1	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.9997	0.9997		1	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.0008597	0.0008597		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.006275	0.006275		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	1.001	1.001		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	6.012	6.012		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	-0.0026921	-0.0026921		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					
15009879	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/31/2022 11:59:	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	0.0001427	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000021	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.147E-06	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00005825	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00004034	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00006778	0.00006778		0	0	0	0.000056	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.00004915	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	5.113E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001392	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	0.0006452	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.0001733	0.0001733		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	J
Thallium	A	mg/L	0.0002893	0.0002893		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0004945	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0002443	0.0002443		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.0005538	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0005538	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.003737	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Tin	B	mg/L	0.001261	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009880	Rinse	ICPMS-6020-W-	SAMP		2/1/2022 12:05:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	-0.0001144	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001723	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-7.32E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-9.627E-06	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	8.954E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00002616	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.253E-05	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	2.212E-06	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001096	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Silicon	A	mg/L	-0.003291	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	9.874E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.00008021	0.00008021		0	0	0	0.000041	0.001	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					
15009880	Rinse	ICPMS-6020-W-	SAMP		2/1/2022 12:05:4	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	0.00005555	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00005018	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Iron	B	mg/L	-5.295E-06	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-5.295E-06	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-1.736E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009881	QCS	ICPMS-6020-W-	ICV		2/1/2022 12:12:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2484	0.2484		0.25	0	0	0.00086	0.001	1	99%	90	110	0%	
Antimony	A	mg/L	0.04707	0.04707		0.05	0	0	0.00042	0.001	0.1	94%	90	110	0%	
Arsenic	A	mg/L	0.05082	0.05082		0.05	0	0	0.00019	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.0539	0.0539		0.05	0	0	0.000042	0.001	1	108%	90	110	0%	
Beryllium	A	mg/L	0.02307	0.02307		0.025	0	0	0.00012	0.001	1	92%	90	110	0%	
Boron	A	mg/L	0.05504	0.05504		0.05	0	0	0.00561	0.00561	1	110%	90	110	0%	
Cadmium	A	mg/L	0.02463	0.02463		0.025	0	0	0.000025	0.001	1	99%	90	110	0%	
Calcium	A	mg/L	2.636	2.636		2.5	0	0	0.02092	0.02092	50	105%	90	110	0%	
Cerium	A	mg/L	0.05202	0.05202		0.05	0	0	0.000012	0.001	0.1	104%	90	110	0%	
Chromium	A	mg/L	0.04907	0.04907		0.05	0	0	0.00018	0.001	1	98%	90	110	0%	
Cobalt	A	mg/L	0.04881	0.04881		0.05	0	0	0.000042	0.001	1	98%	90	110	0%	
Copper	A	mg/L	0.05438	0.05438		0.05	0	0	0.00027	0.001	1	109%	90	110	0%	
Iron	A	mg/L	0.2584	0.2584		0.25	0	0	0.00119	0.00119	5	103%	90	110	0%	
Lanthanum	A	mg/L	0.05154	0.05154		0.05	0	0	0.000011	0.001	0.1	103%	90	110	0%	
Lead	A	mg/L	0.04873	0.04873		0.05	0	0	0.000056	0.001	1	97%	90	110	0%	
Magnesium	A	mg/L	2.712	2.712		2.5	0	0	0.00564	0.00564	50	108%	90	110	0%	
Manganese	A	mg/L	0.2556	0.2556		0.25	0	0	0.000095	0.001	1	102%	90	110	0%	
Mercury	A	mg/L	0.0009676	0.0009676		0.001	0	0	0.00016	0.001	0.002	97%	90	110	0%	
Molybdenum	A	mg/L	0.04853	0.04853		0.05	0	0	0.00005	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.05202	0.05202		0.05	0	0	0.00063	0.001	1	104%	90	110	0%	
Potassium	A	mg/L	2.451	2.451		2.5	0	0	0.08139	0.08139	50	98%	90	110	0%	
Selenium	A	mg/L	0.05298	0.05298		0.05	0	0	0.00033	0.001	1	106%	90	110	0%	
Silicon	A	mg/L	0.4985	0.4985		0.5	0	0	0.01223	0.1	0.4	100%	90	110	0%	
Silver	A	mg/L	0.0252	0.0252		0.025	0	0	0.00002	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	2.624	2.624		2.5	0	0	0.02171	0.02171	50	105%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009881	QCS	ICPMS-6020-W- ICV			2/1/2022 12:12:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	0.05335	0.05335		0.05	0	0	0.00014	0.001	1	107%	90	110	0%	
Thallium	A	mg/L	0.0486	0.0486		0.05	0	0	0.000041	0.001	1	97%	90	110	0%	
Thorium	A	mg/L	0.04803	0.04803		0.05	0	0	0.00061	0.001	1	96%	90	110	0%	
Tin	A	mg/L	0.04928	0.04928		0.05	0	0	0.00132	0.00132	0.1	99%	90	110	0%	
Titanium	A	mg/L	0.05009	0.05009		0.05	0	0	0.000094	0.001	1	100%	90	110	0%	
Uranium	A	mg/L	0.05265	0.05265		0.05	0	0	0.000052	0.0003	1	105%	90	110	0%	
Vanadium	A	mg/L	0.04297	0.04297		0.05	0	0	0.0013	0.0013	1	86%	90	110	0%	S
Zinc	A	mg/L	0.05417	0.05417		0.05	0	0	0.00235	0.00235	1	108%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2584	0.2584		0	0	0	0.00119	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					
15009882	ICSA	ICPMS-6020-W- ICSA			2/1/2022 12:18:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	38.88	38.88		40	0	0	0.00086	0.001	1	97%	80	120	0%	
Antimony	A	mg/L	0.0001515	0.0001515		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0001123	-0.0001123		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	0.00006242	0.00006242		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.0000606	0.0000606		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.003108	0.003108		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00008761	0.00008761		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	122	122		120	0	0	0.02092	0.02092	50	102%	80	120	0%	
Cerium	A	mg/L	2.401E-06	2.401E-06		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.000893	0.000893		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	0.0003226	0.0003226		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00005818	0.00005818		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	101.6	101.6		100	0	0	0.00119	0.00119	5	102%	80	120	0%	
Lanthanum	A	mg/L	9.477E-06	9.477E-06		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	0.0000171	0.0000171		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	42.37	42.37		50	0	0	0.00564	0.00564	50	85%			0%	
Manganese	A	mg/L	0.0002265	0.0002265		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	8.633E-06	8.633E-06		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.7997	0.7997		0.8	0	0	0.00005	0.001	0.1	100%	80	120	0%	
Nickel	A	mg/L	0.0002402	0.0002402		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	41.49	41.49		50	0	0	0.08139	0.08139	50	83%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009882	ICSA	ICPMS-6020-W-	ICSA		2/1/2022 12:18:1	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0.0003166	0.0003166		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.0009858	-0.0009858		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.00001137	0.00001137		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	103.6	103.6		100	0	0	0.02171	0.02171	50	104%			0%	
Strontium	A	mg/L	0.001337	0.001337		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	8.721E-06	8.721E-06		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.0001049	0.0001049		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.002289	0.002289		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8194	0.8194		0.8	0	0	0.000094	0.001	1	102%			0%	
Uranium	A	mg/L	6.995E-06	6.995E-06		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.0108	-0.0108		0	0	0	0.0013	0.0013	1	0%			0%	
Zinc	A	mg/L	0.0006965	0.0006965		0	0	0	0.00273	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	101.6	101.6		0	0	0	0.00119	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					
15009883	ICSAB	ICPMS-6020-W-	ICSAB		2/1/2022 12:24:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	39.89	39.89		40	0	0	0.00086	0.001	1	100%	80	120	0%	
Antimony	A	mg/L	0.00002854	0.00002854		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.01012	0.01012		0.01	0	0	0.00019	0.001	1	101%	80	120	0%	
Barium	A	mg/L	0.00006611	0.00006611		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00004331	0.00004331		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.002148	0.002148		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.009597	0.009597		0.01	0	0	0.000025	0.001	1	96%	80	120	0%	
Calcium	A	mg/L	124.7	124.7		120	0	0	0.02092	0.02092	50	104%	80	120	0%	
Cerium	A	mg/L	0.00000188	0.00000188		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.02116	0.02116		0.02	0	0	0.00018	0.001	1	106%	80	120	0%	
Cobalt	A	mg/L	0.02017	0.02017		0.02	0	0	0.000042	0.001	1	101%	80	120	0%	
Copper	A	mg/L	0.02103	0.02103		0.02	0	0	0.00027	0.001	1	105%	80	120	0%	
Iron	A	mg/L	103.3	103.3		100	0	0	0.00119	0.00119	5	103%	80	120	0%	
Lanthanum	A	mg/L	9.678E-06	9.678E-06		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	1.697E-06	1.697E-06		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	43.06	43.06		40	0	0	0.00564	0.00564	50	108%	80	120	0%	
Manganese	A	mg/L	0.0206	0.0206		0.02	0	0	0.000095	0.001	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					
15009883	ICSAB	ICPMS-6020-W-	ICSAB		2/1/2022 12:24:3	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Mercury	A	mg/L	6.241E-06	6.241E-06		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.805	0.805		0.8	0	0	0.00005	0.001	0.1	101%	80	120	0%	
Nickel	A	mg/L	0.02087	0.02087		0.02	0	0	0.00063	0.001	1	104%	80	120	0%	
Potassium	A	mg/L	41.56	41.56		40	0	0	0.08139	0.08139	50	104%	80	120	0%	
Selenium	A	mg/L	0.01049	0.01049		0.01	0	0	0.00033	0.001	1	105%	80	120	0%	
Silicon	A	mg/L	-0.001265	-0.001265		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.004782	0.004782		0.005	0	0	0.00002	0.001	0.04	96%	80	120	0%	
Sodium	A	mg/L	105.1	105.1		100	0	0	0.02171	0.02171	50	105%	80	120	0%	
Strontium	A	mg/L	0.001297	0.001297		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	-2.958E-05	-2.958E-05		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.0000311	0.0000311		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.00228	0.00228		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8536	0.8536		0.8	0	0	0.000094	0.001	1	107%	80	120	0%	
Uranium	A	mg/L	6.567E-06	6.567E-06		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.009225	0.009225		0.02	0	0	0.0013	0.0013	1	46%	80	120	0%	S
Zinc	A	mg/L	0.01058	0.01058		0.01	0	0	0.00273	0.00273	1	106%	80	120	0%	
Iron, Ferrous	C	mg/L	103.3	103.3		0	0	0	0.00119	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					
15009884	Rinse	ICPMS-6020-W-	SAMP		2/1/2022 12:30:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	-1.518E-05	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0002503	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	1.104E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001228	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-5.7E-07	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0000573	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	4.047E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	1.302E-06	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-4.838E-06	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	4.892E-07	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002964	0.0002964		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	-3.179E-06	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.003761	0		0	0	0	0.01223	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					
15009884	Rinse	ICPMS-6020-W-	SAMP		2/1/2022 12:30:5	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	0.00001207	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	-2.791E-05	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	-1.153E-05	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	6.327E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.003836	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Magnesium	B	mg/L	-0.005124	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.004755	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	-2.149E-05	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009885	CCV	ICPMS-6020-W-	CCV		2/1/2022 12:37:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05322	0.05322		0.05	0	0	0.00086	0.001	1	106%	90	110	0%	
Antimony	A	mg/L	0.05226	0.05226		0.05	0	0	0.00042	0.001	0.1	105%	90	110	0%	
Arsenic	A	mg/L	0.05447	0.05447		0.05	0	0	0.00019	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05352	0.05352		0.05	0	0	0.000042	0.001	1	107%	90	110	0%	
Beryllium	A	mg/L	0.05114	0.05114		0.05	0	0	0.00012	0.001	1	102%	90	110	0%	
Boron	A	mg/L	0.05346	0.05346		0.05	0	0	0.00561	0.00561	1	107%	90	110	0%	
Cadmium	A	mg/L	0.0524	0.0524		0.05	0	0	0.000025	0.001	1	105%	90	110	0%	
Calcium	A	mg/L	12.66	12.66		12.5	0	0	0.02092	0.02092	50	101%	90	110	0%	
Cerium	A	mg/L	0.04826	0.04826		0.05	0	0	0.000012	0.001	0.1	97%	90	110	0%	
Chromium	A	mg/L	0.0541	0.0541		0.05	0	0	0.00018	0.001	1	108%	90	110	0%	
Cobalt	A	mg/L	0.05299	0.05299		0.05	0	0	0.000042	0.001	1	106%	90	110	0%	
Copper	A	mg/L	0.055	0.055		0.05	0	0	0.00035	0.001	1	110%	90	110	0%	
Iron	A	mg/L	1.32	1.32		1.3	0	0	0.00119	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.04822	0.04822		0.05	0	0	0.000011	0.001	0.1	96%	90	110	0%	
Lead	A	mg/L	0.05007	0.05007		0.05	0	0	0.000056	0.001	1	100%	90	110	0%	
Magnesium	A	mg/L	12.92	12.92		12.5	0	0	0.00564	0.00564	50	103%	90	110	0%	
Manganese	A	mg/L	0.05469	0.05469		0.05	0	0	0.000095	0.001	1	109%	90	110	0%	
Mercury	A	mg/L	0.0009229	0.0009229		0.001	0	0	0.00016	0.001	0.002	92%	90	110	0%	
Molybdenum	A	mg/L	0.05207	0.05207		0.05	0	0	0.00005	0.001	0.1	104%	90	110	0%	
Nickel	A	mg/L	0.05515	0.05515		0.05	0	0	0.00052	0.001	1	110%	90	110	0%	
Potassium	A	mg/L	12.88	12.88		12.5	0	0	0.08139	0.08139	50	103%	90	110	0%	
Selenium	A	mg/L	0.05501	0.05501		0.05	0	0	0.00033	0.001	1	110%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009885	CCV	ICPMS-6020-W-	CCV		2/1/2022 12:37:0	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.2197	0.2197		0.2	0	0	0.01223	0.1	0.4	110%	90	110	0%	
Silver	A	mg/L	0.02144	0.02144		0.02	0	0	0.00002	0.001	0.04	107%	90	110	0%	
Sodium	A	mg/L	12.95	12.95		12.5	0	0	0.02171	0.02171	50	104%	90	110	0%	
Strontium	A	mg/L	0.05597	0.05597		0.05	0	0	0.00014	0.001	1	112%	90	110	0%	S
Thallium	A	mg/L	0.049	0.049		0.05	0	0	0.000041	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.05113	0.05113		0.05	0	0	0.00061	0.001	1	102%	90	110	0%	
Tin	A	mg/L	0.05178	0.05178		0.05	0	0	0.00132	0.00132	0.1	104%	90	110	0%	
Titanium	A	mg/L	0.05605	0.05605		0.05	0	0	0.000094	0.001	1	112%	90	110	0%	S
Uranium	A	mg/L	0.05098	0.05098		0.05	0	0	0.000052	0.0003	1	102%	90	110	0%	
Vanadium	A	mg/L	0.04383	0.04383		0.05	0	0	0.0013	0.0013	1	88%	90	110	0%	S
Zinc	A	mg/L	0.05587	0.05587		0.05	0	0	0.00273	0.00273	1	112%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.32	1.32		0	0	0	0.00119	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					
15009886	CCB	ICPMS-6020-W-	CCB		2/1/2022 12:43:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00003003	0.00003003		0	0	0	0.00086	0.001	1	0%				0%
Antimony	A	mg/L	0.00004478	0.00004478		0	0	0	0.00042	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0001871	-0.0001871		0	0	0	0.00019	0.001	1	0%				0%
Barium	A	mg/L	-1.962E-06	-1.962E-06		0	0	0	0.000042	0.001	1	0%				0%
Beryllium	A	mg/L	0.00006091	0.00006091		0	0	0	0.00012	0.001	1	0%				0%
Boron	A	mg/L	0.001082	0.001082		0	0	0	0.00561	0.00561	1	0%				0%
Cadmium	A	mg/L	3.808E-06	3.808E-06		0	0	0	0.000025	0.001	1	0%				0%
Calcium	A	mg/L	0.001806	0.001806		0	0	0	0.02092	0.02092	50	0%				0%
Cerium	A	mg/L	-5.387E-07	-5.387E-07		0	0	0	0.000012	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	-5.644E-05	-5.644E-05		0	0	0	0.00018	0.001	1	0%				0%
Cobalt	A	mg/L	0.00001001	0.00001001		0	0	0	0.000042	0.001	1	0%				0%
Copper	A	mg/L	0.0002053	0.0002053		0	0	0	0.00027	0.001	1	0%				0%
Iron	A	mg/L	0.001683	0.001683		0	0	0	0.00119	0.00119	5	0%				0%
Lanthanum	A	mg/L	-2.441E-07	-2.441E-07		0	0	0	0.000011	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	7.096E-06	7.096E-06		0	0	0	0.000056	0.001	1	0%				0%
Magnesium	A	mg/L	-0.005349	-0.005349		0	0	0	0.00564	0.00564	50	0%				0%
Manganese	A	mg/L	-1.341E-05	-1.341E-05		0	0	0	0.000095	0.001	1	0%				0%
Mercury	A	mg/L	4.952E-06	4.952E-06		0	0	0	0.00016	0.001	0.002	0%				0%

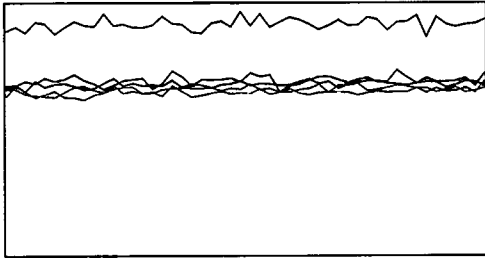
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15009886	CCB	ICPMS-6020-W-	CCB		2/1/2022 12:43:2	1	R373996		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Molybdenum	A	mg/L	0.0000553	0.0000553		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.0001091	0.0001091		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.01241	0.01241		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00002161	0.00002161		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.003844	-0.003844		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.00001141	0.00001141		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.02066	0.02066		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	-2.239E-06	-2.239E-06		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009891	0.00009891		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00003139	0.00003139		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00001556	0.00001556		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0001665	0.0001665		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.389E-06	3.389E-06		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.009096	-0.009096		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-5.528E-05	-5.528E-05		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.001683	0.001683		0	0	0	0.00119	0.00119	5	0%	0	0	0%	

Tune Report

Operator Name elim
 Acq/Data Batch D:\Agilent\ICPMH\1\DATA\220131ADoD b
 Acq. Date-Time 2022-01-31 12:08:13
 Report Comment ICPMS207-B JPV
 Instrument Name G8403A JP17281923

[No Gas]

Sensitivity



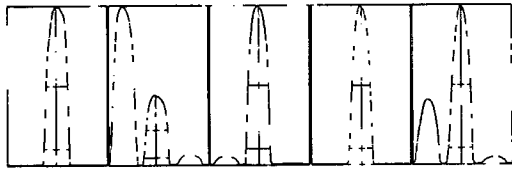
Mass	Range	Count	RSD%	Background
9	200000	139370	2.601	5.600
24	50000	33047	1.851	2.800
59	50000	34068	1.589	1.400
115	50000	32480	2.161	3.000
208	20000	18442	2.327	7.000

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

Oxide/Doubly Charged Ratio

Oxide 156 / 140 1.132 %
 Doubly Charged 70 / 140 0.686 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	139750.57	9.00	0.64	0.766
24	33754.96	23.95	0.65	0.763
59	34082.31	59.00	0.61	0.726
115	32265.37	115.05	0.55	0.711
208	18566.93	208.00	0.58	0.735

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	9.9 V	Deflect	15.0 V
Extract 2	-225.0 V	Cell Entrance	-30 V	Plate Bias	-35 V

Tune Report

Omega Bias -70 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 0.9990 QP Bias -3.0 V
 Mass Offset 126 Axis Offset 0.10

Hardware Settings

Torch

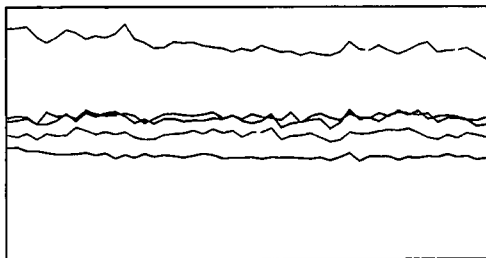
Torch H -0.8 mm Torch V 0.0 mm

EM

Discriminator 5.6 mV Analog HV 2302 V Pulse HV 1710 V

[H2]

Sensitivity



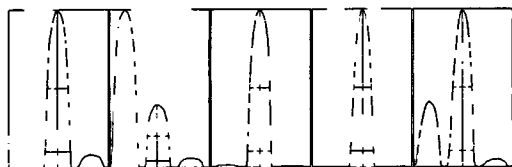
Mass	Range	Count	RSD%	Background
9	50000	20602	2.989	0.000
24	10000	8551	3.930	1.000
59	20000	11185	3.011	0.200
115	50000	24944	2.711	0.100
208	20000	11421	2.107	0.500

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

Oxide/Doubly Charged Ratio

Oxide --
 Doubly Charged 70 / 140 0.657 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	19799.75	9.00	0.63	0.761
24	8150.63	23.95	0.64	0.734
59	11001.15	59.00	0.61	0.723
115	24376.04	115.05	0.54	0.705
208	11404.02	208.00	0.57	0.735

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	9.2 V	Deflect	3.0 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-80 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	160 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9990	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.10		

Hardware Settings

Torch

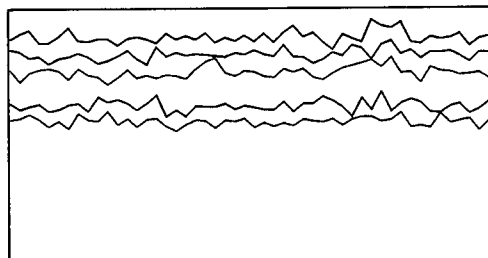
Torch H	-0.8 mm	Torch V	0.0 mm
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EM

Discriminator	5.6 mV	Analog HV	2302 V	Pulse HV	1710 V
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[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	2000	1232	3.586	1.500
24	2000	1107	3.296	0.700
59	10000	8899	2.734	0.300
115	10000	7496	3.141	1.800
208	10000	8198	2.462	1.000

Sampling Period [sec] 0.514

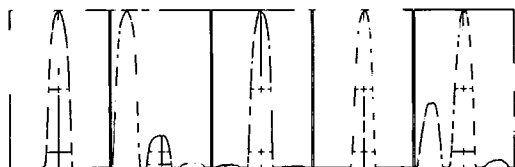
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide	---
Doubly Charged	70 / 140 0.677 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	1232.04	9.00	0.63	0.764
24	1078.92	24.05	0.65	0.733
59	8885.59	59.00	0.61	0.721
115	7437.53	115.05	0.53	0.693
208	8085.73	208.00	0.55	0.715

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	0.6 V
Extract 2	-240.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-70 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	0.9990	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	-0.8 mm	Torch V	0.0 mm
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EM

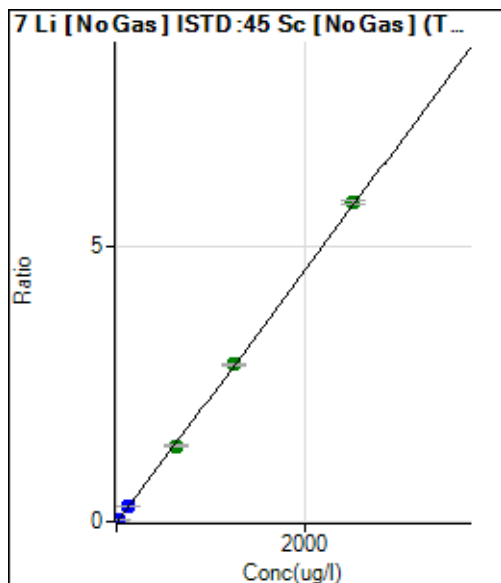
Discriminator	5.6 mV	Analog HV	2302 V	Pulse HV	1710 V
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Calibration for 020_CCV.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\220131ADoD.b\
 Analysis File: 220131ADoD.batch.bin
 DA Date-Time: 2022-01-31 14:27:08
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	007CALB.d	Cal Blk	2022-01-31 12:58:18
2	008CAL.S.d	0.025 ppb STD	2022-01-31 13:05:11
3	009CAL.S.d	0.05 ppb STD	2022-01-31 13:11:49
4	010CAL.S.d	0.10 ppb STD	2022-01-31 13:18:28
5	011CAL.S.d	0.5 ppb STD	2022-01-31 13:25:06
6	012CAL.S.d	1 ppb STD	2022-01-31 13:31:44
7	013CAL.S.d	10 ppb STD	2022-01-31 13:38:23
8	014CAL.S.d	50 ppb STD	2022-01-31 13:45:01
9	015CAL.S.d	100 ppb STD	2022-01-31 13:51:38
10	016CAL.S.d	1000 ppb STD	2022-01-31 13:58:10
11	017CAL.S.d	100 ppb Br STD	2022-01-31 14:04:41

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	12301.91	0.0048	P	2.5	
2	<input type="checkbox"/>	0.313	0.233	13650.27	0.0053	P	1.6	-25.5
3	<input type="checkbox"/>	0.625	0.465	15172.31	0.0059	P	1.7	-25.7
4	<input type="checkbox"/>	1.250	1.249	19473.60	0.0077	P	1.4	0.0
5	<input type="checkbox"/>	6.250	5.880	46620.61	0.0184	P	0.5	-5.9
6	<input type="checkbox"/>	12.500	11.830	82561.15	0.0321	P	0.7	-5.4
7	<input type="checkbox"/>	125.000	122.665	751801.81	0.2882	P	2.2	-1.9
8	<input type="checkbox"/>	625.000	595.451	3557227.98	1.3804	A	1.0	-4.7
9	<input type="checkbox"/>	1250.000	1235.639	7320737.79	2.8593	A	1.6	-1.1
10	<input type="checkbox"/>	2500.000	2514.689	15066418.55	5.8141	A	1.3	0.6
11	<input type="checkbox"/>			36707.45	0.0139	P	5.1	

$$y = 0.0023 * x + 0.0048$$

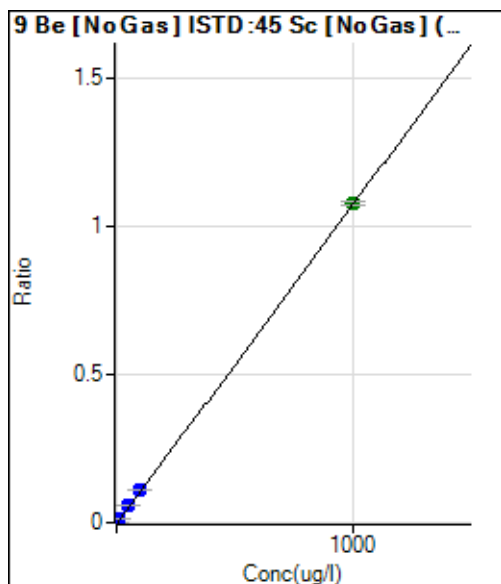
$$R = 0.9999$$

$$DL = 0.1591 \text{ ug/l}$$

$$BEC = 2.081 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	463.25	0.0002	P	2.4	
2	<input type="checkbox"/>	0.025	0.015	503.57	0.0002	P	4.0	-40.1
3	<input type="checkbox"/>	0.050	0.040	578.56	0.0002	P	2.7	-19.8
4	<input type="checkbox"/>	0.100	0.115	771.20	0.0003	P	2.3	14.7
5	<input type="checkbox"/>	0.500	0.501	1828.41	0.0007	P	4.9	0.2
6	<input type="checkbox"/>	1.000	0.987	3200.37	0.0012	P	2.2	-1.3
7	<input type="checkbox"/>	10.000	9.584	27438.89	0.0105	P	2.8	-4.2
8	<input type="checkbox"/>	50.000	52.737	147068.46	0.0571	P	1.0	5.5
9	<input type="checkbox"/>	100.000	100.847	278994.77	0.1090	P	1.2	0.8
10	<input type="checkbox"/>	1000.000	999.783	2795052.33	1.0787	A	1.3	0.0
11	<input type="checkbox"/>			711.21	0.0003	P	8.5	

$$y = 0.0011 * x + 1.8106E-004$$

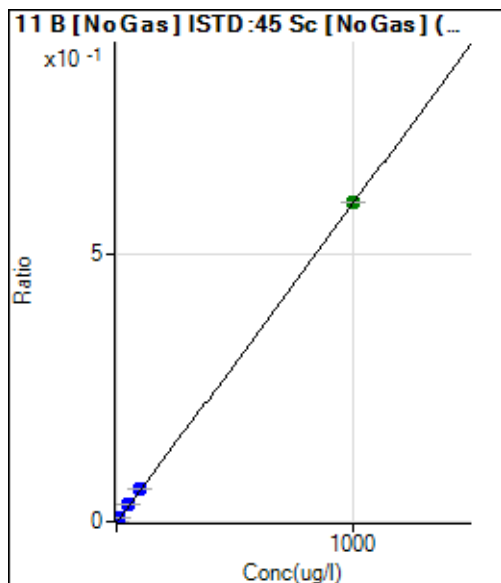
$$R = 1.0000$$

$$DL = 0.01193 \text{ ug/l}$$

$$BEC = 0.1678 \text{ ug/l}$$

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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1392.63	0.0005	P	4.7	
2	<input type="checkbox"/>			1449.99	0.0006	P	3.0	
3	<input type="checkbox"/>	0.050	-0.012	1384.62	0.0005	P	5.5	-124.2
4	<input type="checkbox"/>	0.100	0.073	1488.67	0.0006	P	3.5	-26.8
5	<input type="checkbox"/>	0.500	0.338	1892.88	0.0007	P	1.4	-32.3
6	<input type="checkbox"/>	1.000	0.710	2490.54	0.0010	P	3.2	-29.0
7	<input type="checkbox"/>	10.000	9.274	15904.74	0.0061	P	1.7	-7.3
8	<input type="checkbox"/>	50.000	52.276	82057.53	0.0318	P	1.7	4.6
9	<input type="checkbox"/>	100.000	102.136	157955.98	0.0617	P	1.0	2.1
10	<input type="checkbox"/>	1000.000	999.680	1552323.98	0.5991	A	0.6	0.0
11	<input type="checkbox"/>			21450.45	0.0081	P	8.6	

$y = 5.9870E-004 * x + 5.4433E-004$

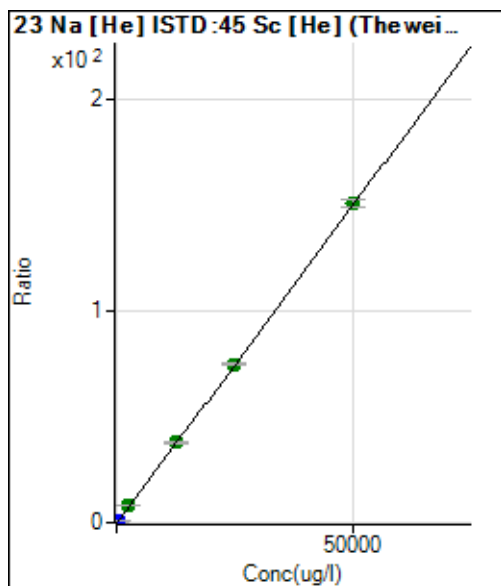
R = 1.0000

DL = 0.1277 ug/l

BEC = 0.9092 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	45478.52	0.2851	P	1.2	
2	<input type="checkbox"/>	6.250	4.971	48009.70	0.3000	P	1.3	-20.5
3	<input type="checkbox"/>	12.500	10.514	49745.30	0.3167	P	1.9	-15.9
4	<input type="checkbox"/>	25.000	29.909	59310.58	0.3752	P	1.5	19.6
5	<input type="checkbox"/>	125.000	131.509	107649.46	0.6814	P	0.6	5.2
6	<input type="checkbox"/>	250.000	277.890	177721.97	1.1225	P	0.5	11.2
7	<input type="checkbox"/>	2500.000	2668.231	1352210.26	8.3259	A	1.6	6.7
8	<input type="checkbox"/>	12500.00	12502.17	6254308.52	37.9612	A	1.4	0.0
9	<input type="checkbox"/>	25000.00	24799.20	12537692.59	75.0190	A	1.7	-0.8
10	<input type="checkbox"/>	50000.00	50091.28	24763577.69	151.238	A	2.2	0.2
11	<input type="checkbox"/>			48045.23	0.2991	P	1.9	

$y = 0.0030 * x + 0.2851$

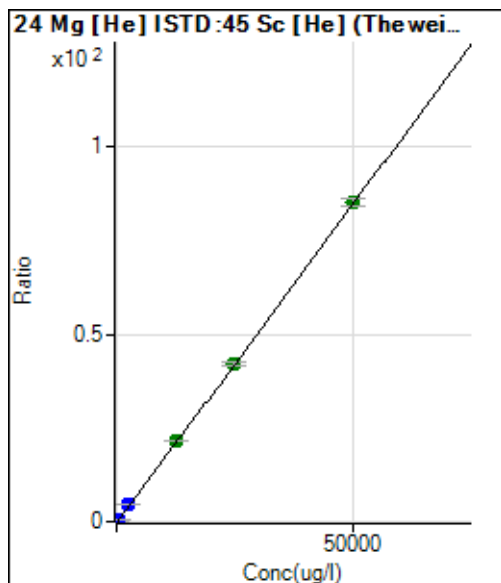
R = 1.0000

DL = 3.479 ug/l

BEC = 94.59 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	3144.10	0.0197	P	6.6	
2	<input type="checkbox"/>	6.250	5.778	4724.70	0.0295	P	0.6	-7.6
3	<input type="checkbox"/>	12.500	12.775	6508.53	0.0414	P	2.7	2.2
4	<input type="checkbox"/>	25.000	28.491	10772.51	0.0682	P	2.9	14.0
5	<input type="checkbox"/>	125.000	134.812	39336.58	0.2490	P	1.4	7.8
6	<input type="checkbox"/>	250.000	279.563	78392.07	0.4951	P	2.8	11.8
7	<input type="checkbox"/>	2500.000	2651.586	735558.82	4.5292	P	2.0	6.1
8	<input type="checkbox"/>	12500.00	12608.52	3536380.56	21.4627	A	0.1	0.9
9	<input type="checkbox"/>	25000.00	24799.63	7052075.61	42.1958	A	1.9	-0.8
10	<input type="checkbox"/>	50000.00	50065.30	13946870.99	85.1645	A	1.8	0.1
11	<input type="checkbox"/>			2375.48	0.0148	P	3.5	

$$y = 0.0017 * x + 0.0197$$

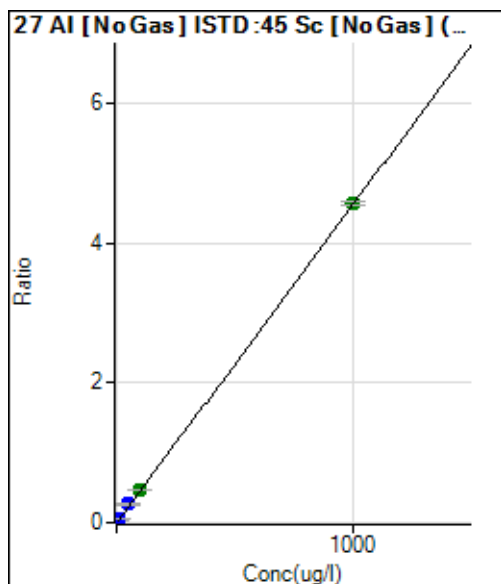
R = 1.0000

DL = 2.281 ug/l

BEC = 11.58 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	46083.81	0.0180	P	0.9	
2	<input type="checkbox"/>			47246.33	0.0185	P	0.8	
3	<input type="checkbox"/>	0.050	-0.326	42619.25	0.0165	P	4.4	-752.5
4	<input type="checkbox"/>	0.100	0.475	51035.38	0.0202	P	0.1	374.6
5	<input type="checkbox"/>	0.500	0.168	47575.10	0.0188	P	1.5	-66.5
6	<input type="checkbox"/>	1.000	0.323	50036.47	0.0195	P	1.7	-67.7
7	<input type="checkbox"/>	10.000	9.154	155565.27	0.0596	P	3.2	-8.5
8	<input type="checkbox"/>	50.000	53.746	676427.46	0.2625	P	1.8	7.5
9	<input type="checkbox"/>	100.000	99.508	1204871.28	0.4706	A	1.1	-0.5
10	<input type="checkbox"/>	1000.000	999.871	11831156.91	4.5658	A	1.1	0.0
11	<input type="checkbox"/>			37335.20	0.0141	P	1.6	

$$y = 0.0045 * x + 0.0180$$

R = 1.0000

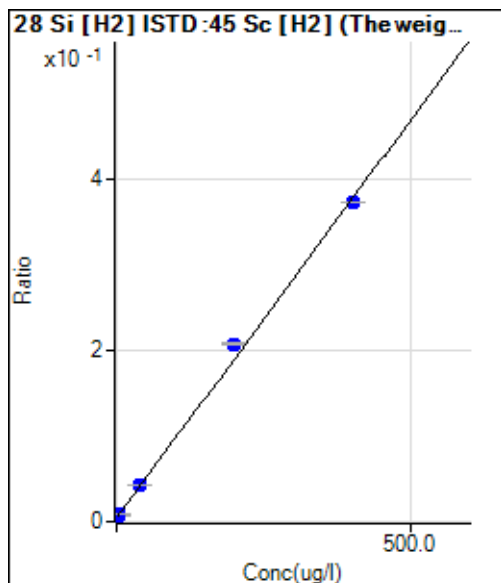
DL = 0.1096 ug/l

BEC = 3.96 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8421.09	0.0062	P	2.8	
2	<input type="checkbox"/>			8756.74	0.0065	P	1.2	
3	<input type="checkbox"/>	0.200	-0.037	8212.89	0.0062	P	2.0	-118.4
4	<input type="checkbox"/>	0.400	0.077	8457.13	0.0063	P	1.0	-80.8
5	<input type="checkbox"/>	2.000	1.076	9654.32	0.0072	P	1.0	-46.2
6	<input type="checkbox"/>	4.000	2.730	11830.09	0.0088	P	0.3	-31.7
7	<input type="checkbox"/>	40.000	38.108	56200.04	0.0417	P	1.0	-4.7
8	<input type="checkbox"/>	200.000	214.995	274717.76	0.2067	P	1.0	7.5
9	<input type="checkbox"/>	400.000	392.709	492805.36	0.3724	P	0.2	-1.8
10	<input type="checkbox"/>			7863.24	0.0061	P	3.6	
11	<input type="checkbox"/>			9464.80	0.0072	P	0.4	

$y = 9.3243E-004 * x + 0.0062$

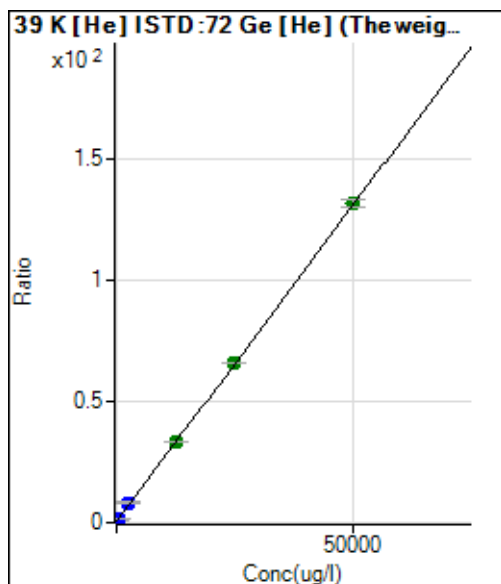
$R = 0.9991$

DL = 0.568 ug/l

BEC = 6.661 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	119171.08	1.1699	P	2.1	
2	<input type="checkbox"/>	6.250	9.405	119366.89	1.1944	P	2.5	50.5
3	<input type="checkbox"/>	12.500	19.296	119718.20	1.2202	P	2.9	54.4
4	<input type="checkbox"/>	25.000	31.707	123843.31	1.2525	P	1.7	26.8
5	<input type="checkbox"/>	125.000	128.720	149673.21	1.5053	P	2.3	3.0
6	<input type="checkbox"/>	250.000	277.367	185405.53	1.8927	P	1.5	10.9
7	<input type="checkbox"/>	2500.000	2721.596	820991.54	8.2620	P	2.8	8.9
8	<input type="checkbox"/>	12500.00	12427.23	3469399.50	33.5534	A	0.4	-0.6
9	<input type="checkbox"/>	25000.00	24844.52	6852117.67	65.9110	A	0.2	-0.6
10	<input type="checkbox"/>	50000.00	50084.69	13410030.22	131.683	A	2.2	0.2
11	<input type="checkbox"/>			319121.09	3.2230	P	1.5	

$y = 0.0026 * x + 1.1699$

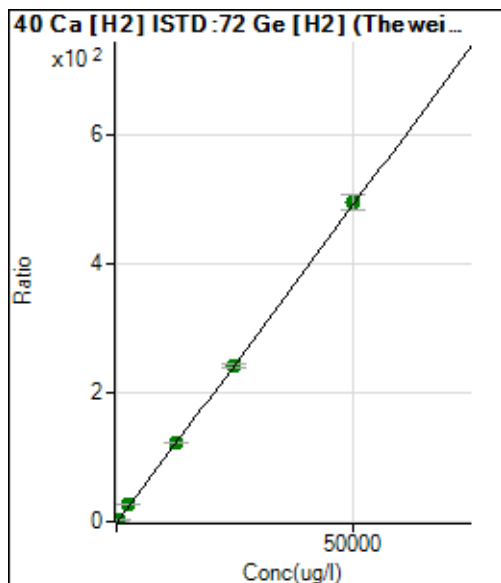
$R = 1.0000$

DL = 27.63 ug/l

BEC = 449 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	115921.07	0.2545	P	2.3	
2	<input type="checkbox"/>	6.250	8.314	150078.39	0.3365	P	2.1	33.0
3	<input type="checkbox"/>	12.500	13.752	174756.91	0.3901	P	1.0	10.0
4	<input type="checkbox"/>	25.000	30.958	245469.42	0.5597	P	0.7	23.8
5	<input type="checkbox"/>	125.000	134.528	698427.04	1.5806	P	1.6	7.6
6	<input type="checkbox"/>	250.000	280.500	1345950.76	3.0194	A	1.8	12.2
7	<input type="checkbox"/>	2500.000	2652.133	11682707.30	26.3967	A	2.1	6.1
8	<input type="checkbox"/>	12500.00	12356.37	54679033.36	122.051	A	1.1	-1.1
9	<input type="checkbox"/>	25000.00	24570.59	108035659.3	242.447	A	2.2	-1.7
10	<input type="checkbox"/>	50000.00	50242.82	209357603.5	495.500	A	4.6	0.5
11	<input type="checkbox"/>			176218.75	0.3964	P	0.3	

$y = 0.0099 * x + 0.2545$

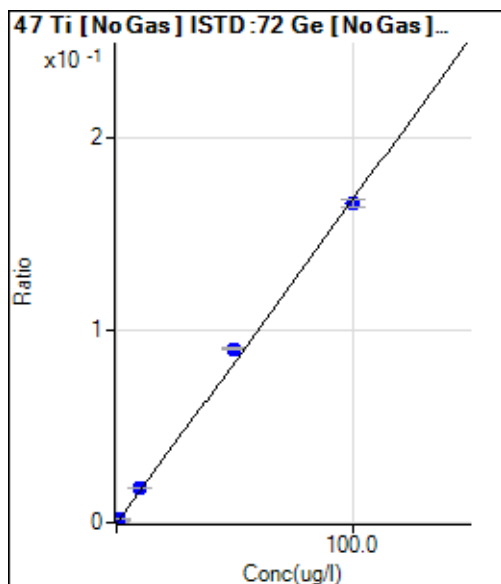
$R = 0.9999$

DL = 1.759 ug/l

BEC = 25.82 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	273.61	0.0004	P	15.5	
2	<input type="checkbox"/>	0.025	0.142	427.20	0.0006	P	44.5	468.9
3	<input type="checkbox"/>	0.050	0.061	333.67	0.0005	P	6.7	22.2
4	<input type="checkbox"/>	0.100	0.201	477.16	0.0007	P	20.2	100.7
5	<input type="checkbox"/>	0.500	0.541	852.55	0.0013	P	8.0	8.2
6	<input type="checkbox"/>	1.000	1.060	1439.86	0.0022	P	6.1	6.0
7	<input type="checkbox"/>	10.000	10.498	11886.79	0.0181	P	1.7	5.0
8	<input type="checkbox"/>	50.000	53.292	60691.57	0.0902	P	1.2	6.6
9	<input type="checkbox"/>	100.000	98.303	115294.94	0.1660	P	2.1	-1.7
10	<input type="checkbox"/>			8263.99	0.0123	P	2.5	
11	<input type="checkbox"/>			540.56	0.0008	P	4.6	

$y = 0.0017 * x + 4.0779E-004$

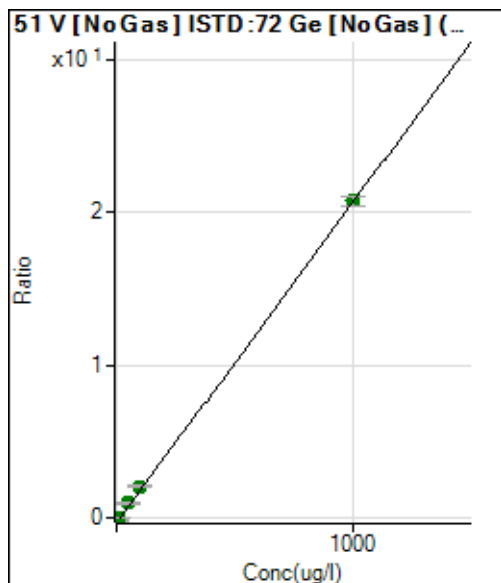
$R = 0.9993$

DL = 0.1127 ug/l

BEC = 0.2421 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	-114716.85	-0.1718	A	-111.	
2	<input type="checkbox"/>	0.025	4.695	-47050.44	-0.0734	A	-304.	18679.9
3	<input type="checkbox"/>	0.050	2.542	-77491.73	-0.1185	A	-67.3	4984.6
4	<input type="checkbox"/>	0.100	-0.203	-113011.91	-0.1760	A	-61.5	-302.9
5	<input type="checkbox"/>	0.500	-2.073	-138830.22	-0.2152	A	-96.8	-514.7
6	<input type="checkbox"/>	1.000	1.513	-92080.67	-0.1401	A	-84.4	51.3
7	<input type="checkbox"/>	10.000	10.762	35381.98	0.0537	A	127.0	7.6
8	<input type="checkbox"/>	50.000	56.381	679506.33	1.0095	A	11.3	12.8
9	<input type="checkbox"/>	100.000	107.148	1440311.13	2.0731	A	4.0	7.1
10	<input type="checkbox"/>	1000.000	998.959	13989746.28	20.7575	A	3.0	-0.1
11	<input type="checkbox"/>			-123976.89	-0.1818	A	-24.0	

$y = 0.0210 * x - 0.1718$

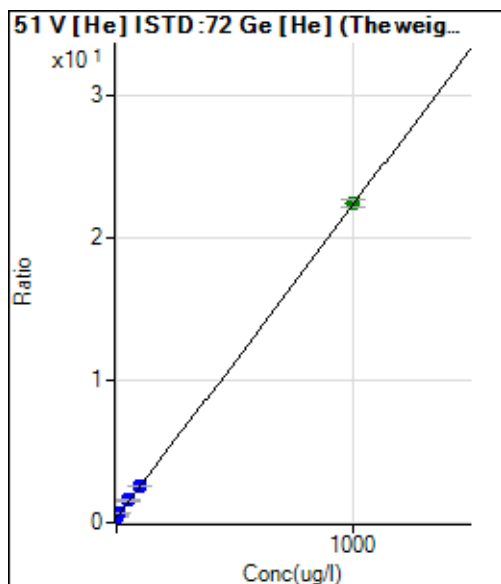
$R = 0.9999$

DL = 27.52 ug/l

BEC = -8.199 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	46352.84	0.4551	P	3.2	
2	<input type="checkbox"/>	0.025	1.078	47843.10	0.4788	P	3.5	4210.8
3	<input type="checkbox"/>	0.050	1.502	47891.11	0.4881	P	2.8	2903.0
4	<input type="checkbox"/>	0.100	1.357	47948.81	0.4849	P	0.9	1257.0
5	<input type="checkbox"/>	0.500	1.253	48002.42	0.4826	P	0.9	150.7
6	<input type="checkbox"/>	1.000	1.743	48340.01	0.4934	P	0.5	74.3
7	<input type="checkbox"/>	10.000	9.305	65531.73	0.6598	P	5.1	-7.0
8	<input type="checkbox"/>	50.000	50.122	161091.30	1.5581	P	2.2	0.2
9	<input type="checkbox"/>	100.000	95.205	265072.32	2.5503	P	1.9	-4.8
10	<input type="checkbox"/>	1000.000	1000.479	2288304.59	22.4732	A	2.9	0.0
11	<input type="checkbox"/>			41109.42	0.4153	P	3.9	

$y = 0.0220 * x + 0.4551$

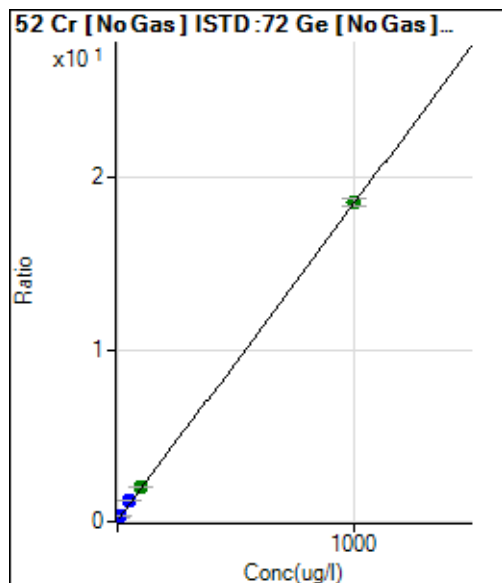
$R = 1.0000$

DL = 1.96 ug/l

BEC = 20.68 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	118446.65	0.1768	P	0.7	
2	<input type="checkbox"/>	0.025	0.401	121078.81	0.1842	P	2.9	1505.2
3	<input type="checkbox"/>	0.050	0.355	119694.50	0.1833	P	2.0	609.6
4	<input type="checkbox"/>	0.100	0.777	122343.57	0.1911	P	3.0	677.0
5	<input type="checkbox"/>	0.500	0.753	123268.46	0.1907	P	3.3	50.5
6	<input type="checkbox"/>	1.000	1.176	130207.80	0.1985	P	4.3	17.6
7	<input type="checkbox"/>	10.000	10.723	245814.21	0.3742	P	2.6	7.2
8	<input type="checkbox"/>	50.000	56.152	814514.81	1.2103	P	1.8	12.3
9	<input type="checkbox"/>	100.000	100.495	1407532.06	2.0265	A	1.0	0.5
10	<input type="checkbox"/>	1000.000	999.635	12519125.20	18.5759	A	1.8	0.0
11	<input type="checkbox"/>			139050.16	0.2039	P	2.7	

$y = 0.0184 * x + 0.1768$

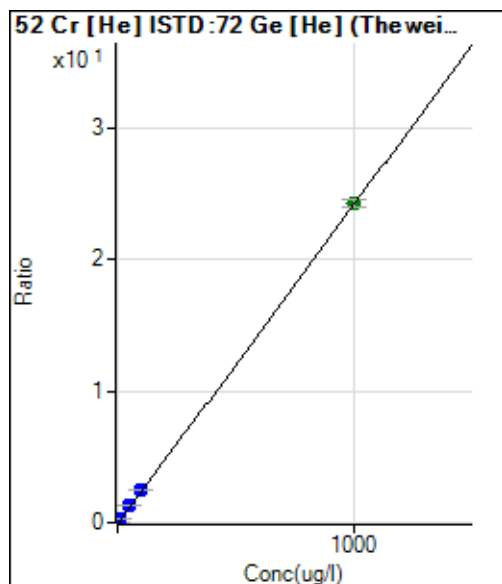
R = 1.0000

DL = 0.2041 ug/l

BEC = 9.606 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	962.26	0.0094	P	13.3	
2	<input type="checkbox"/>	0.025	0.057	1083.38	0.0108	P	4.7	129.9
3	<input type="checkbox"/>	0.050	0.060	1070.04	0.0109	P	9.8	20.9
4	<input type="checkbox"/>	0.100	0.090	1150.05	0.0116	P	2.4	-9.9
5	<input type="checkbox"/>	0.500	0.475	2086.83	0.0210	P	2.5	-5.0
6	<input type="checkbox"/>	1.000	1.128	3610.46	0.0369	P	4.7	12.8
7	<input type="checkbox"/>	10.000	10.788	26999.16	0.2717	P	3.1	7.9
8	<input type="checkbox"/>	50.000	54.955	139105.40	1.3455	P	2.4	9.9
9	<input type="checkbox"/>	100.000	101.084	256451.41	2.4671	P	1.5	1.1
10	<input type="checkbox"/>	1000.000	999.636	2476200.31	24.3132	A	2.0	0.0
11	<input type="checkbox"/>			1128.94	0.0114	P	5.0	

$y = 0.0243 * x + 0.0094$

R = 1.0000

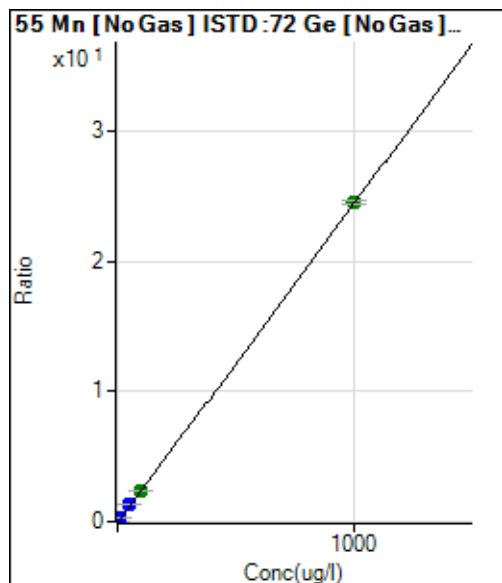
DL = 0.155 ug/l

BEC = 0.3884 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	16120.27	0.0241	P	3.3	
2	<input type="checkbox"/>	0.025	0.037	16429.93	0.0250	P	2.4	49.4
3	<input type="checkbox"/>	0.050	0.104	17379.20	0.0266	P	1.0	107.5
4	<input type="checkbox"/>	0.100	0.156	17868.80	0.0279	P	4.1	56.3
5	<input type="checkbox"/>	0.500	0.579	24741.77	0.0383	P	2.3	15.7
6	<input type="checkbox"/>	1.000	1.137	34118.49	0.0520	P	1.3	13.7
7	<input type="checkbox"/>	10.000	10.787	189666.77	0.2887	P	1.8	7.9
8	<input type="checkbox"/>	50.000	55.952	939856.21	1.3966	P	0.8	11.9
9	<input type="checkbox"/>	100.000	97.257	1673703.78	2.4098	A	1.6	-2.7
10	<input type="checkbox"/>	1000.000	999.969	16549415.97	24.5538	A	1.2	0.0
11	<input type="checkbox"/>			22029.44	0.0323	P	1.8	

$y = 0.0245 * x + 0.0241$

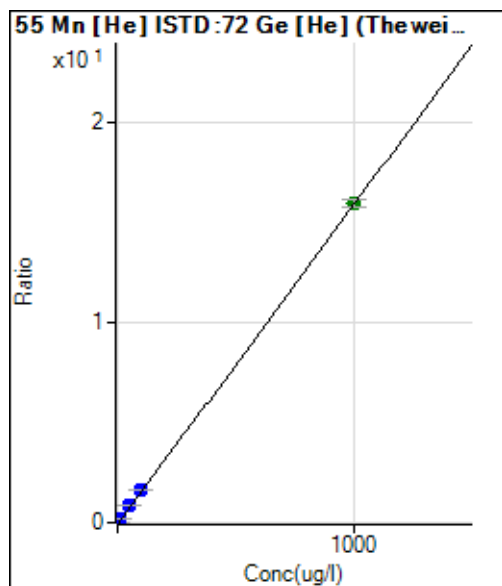
$R = 1.0000$

DL = 0.09585 ug/l

BEC = 0.9813 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	163.97	0.0016	P	3.9	
2	<input type="checkbox"/>	0.025	0.025	201.30	0.0020	P	10.1	1.6
3	<input type="checkbox"/>	0.050	0.048	232.96	0.0024	P	14.4	-4.2
4	<input type="checkbox"/>	0.100	0.123	353.94	0.0036	P	2.7	23.2
5	<input type="checkbox"/>	0.500	0.560	1049.16	0.0106	P	2.7	11.9
6	<input type="checkbox"/>	1.000	1.136	1935.08	0.0198	P	4.7	13.6
7	<input type="checkbox"/>	10.000	11.183	17910.63	0.1803	P	3.1	11.8
8	<input type="checkbox"/>	50.000	56.224	93031.89	0.8998	P	1.2	12.4
9	<input type="checkbox"/>	100.000	103.240	171593.32	1.6509	P	1.8	3.2
10	<input type="checkbox"/>	1000.000	999.353	1625916.26	15.9667	A	2.4	-0.1
11	<input type="checkbox"/>			250.28	0.0025	P	2.9	

$y = 0.0160 * x + 0.0016$

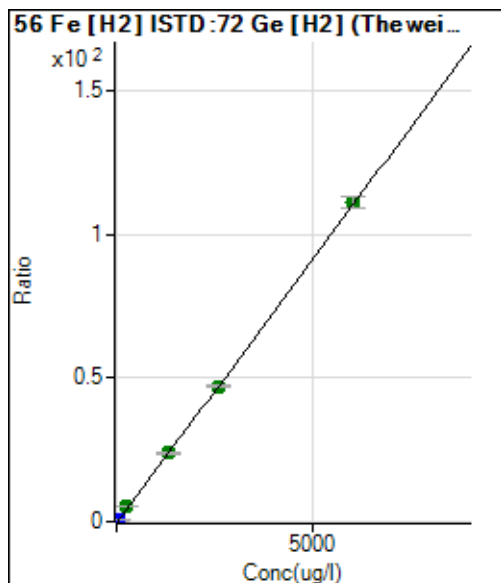
$R = 1.0000$

DL = 0.01174 ug/l

BEC = 0.1008 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	14658.71	0.0322	P	1.3	
2	<input type="checkbox"/>	0.650	0.671	19871.72	0.0445	P	1.4	3.2
3	<input type="checkbox"/>	1.300	1.437	26283.19	0.0587	P	1.4	10.5
4	<input type="checkbox"/>	2.600	3.036	38659.51	0.0881	P	1.5	16.8
5	<input type="checkbox"/>	13.000	13.938	127771.56	0.2892	P	0.7	7.2
6	<input type="checkbox"/>	26.000	28.608	249489.66	0.5596	P	1.0	10.0
7	<input type="checkbox"/>	260.000	275.803	2265021.92	5.1174	A	0.8	6.1
8	<input type="checkbox"/>	1300.000	1290.042	10670387.30	23.8177	A	1.1	-0.8
9	<input type="checkbox"/>	2600.000	2551.170	20981173.56	47.0701	A	0.4	-1.9
10	<input type="checkbox"/>	6000.000	6022.619	46937062.49	111.076	A	4.1	0.4
11	<input type="checkbox"/>			15530.50	0.0349	P	2.9	

$$y = 0.0184 * x + 0.0322$$

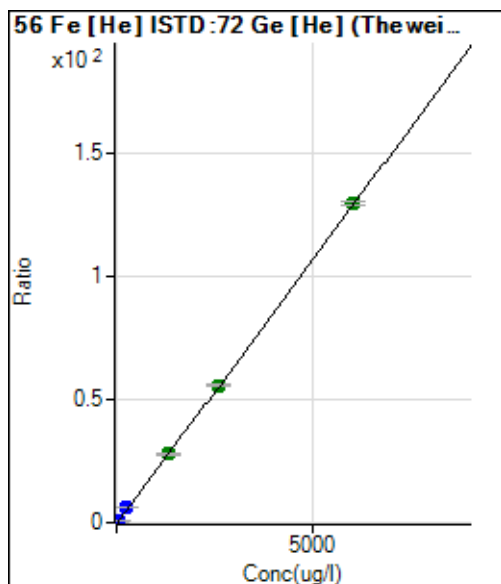
$$R = 1.0000$$

$$DL = 0.0678 \text{ ug/l}$$

$$BEC = 1.745 \text{ ug/l}$$

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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	6906.92	0.0678	P	2.3	
2	<input type="checkbox"/>	0.650	0.783	8462.64	0.0847	P	1.6	20.5
3	<input type="checkbox"/>	1.300	1.378	9564.42	0.0975	P	1.3	6.0
4	<input type="checkbox"/>	2.600	3.103	13311.10	0.1346	P	1.3	19.3
5	<input type="checkbox"/>	13.000	13.980	36667.46	0.3688	P	1.7	7.5
6	<input type="checkbox"/>	26.000	29.375	68586.36	0.7001	P	2.1	13.0
7	<input type="checkbox"/>	260.000	281.680	609344.43	6.1314	P	2.7	8.3
8	<input type="checkbox"/>	1300.000	1288.085	2873891.21	27.7957	A	1.1	-0.9
9	<input type="checkbox"/>	2600.000	2580.944	5782761.31	55.6263	A	0.7	-0.7
10	<input type="checkbox"/>	6000.000	6009.883	13184250.14	129.439	A	0.8	0.2
11	<input type="checkbox"/>			7093.86	0.0716	P	2.1	

$$y = 0.0215 * x + 0.0678$$

$$R = 1.0000$$

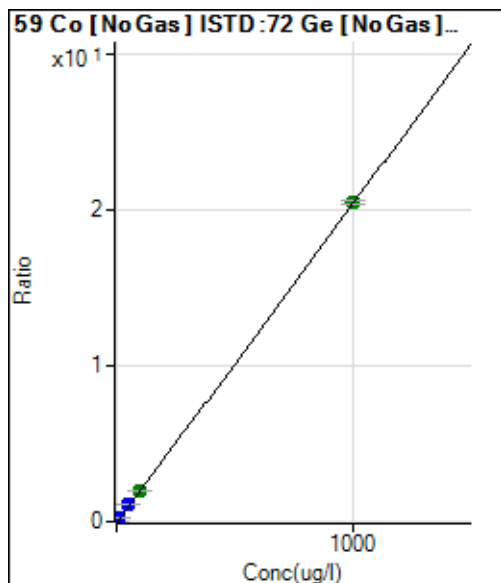
$$DL = 0.2201 \text{ ug/l}$$

$$BEC = 3.15 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	568.89	0.0008	P	22.2	
2	<input type="checkbox"/>	0.025	0.028	941.50	0.0014	P	1.8	13.8
3	<input type="checkbox"/>	0.050	0.044	1147.78	0.0018	P	12.0	-11.2
4	<input type="checkbox"/>	0.100	0.122	2145.91	0.0034	P	1.3	22.0
5	<input type="checkbox"/>	0.500	0.542	7736.74	0.0120	P	3.0	8.4
6	<input type="checkbox"/>	1.000	1.086	15191.12	0.0231	P	2.3	8.6
7	<input type="checkbox"/>	10.000	10.730	145189.84	0.2210	P	2.5	7.3
8	<input type="checkbox"/>	50.000	54.880	758320.79	1.1268	P	1.0	9.8
9	<input type="checkbox"/>	100.000	95.762	1365266.22	1.9656	A	1.3	-4.2
10	<input type="checkbox"/>	1000.000	1000.172	13831397.25	20.5216	A	1.7	0.0
11	<input type="checkbox"/>			918.21	0.0013	P	11.3	

$$y = 0.0205 * x + 8.4862E-004$$

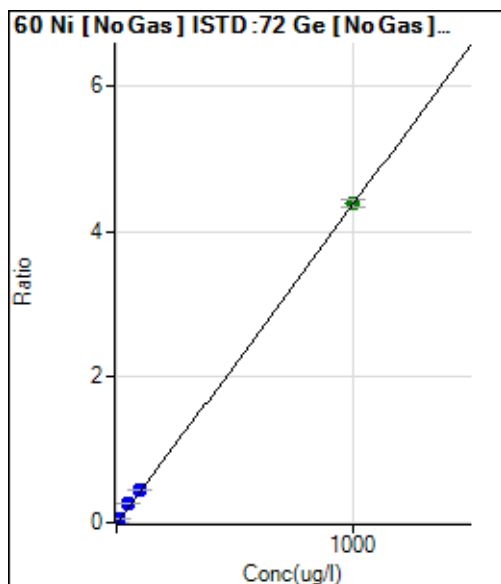
$$R = 1.0000$$

$$DL = 0.0276 \text{ ug/l}$$

$$BEC = 0.04136 \text{ ug/l}$$

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	698.63	0.0010	P	8.4	
2	<input type="checkbox"/>	0.025	0.032	778.48	0.0012	P	1.1	28.8
3	<input type="checkbox"/>	0.050	0.043	805.10	0.0012	P	27.8	-13.5
4	<input type="checkbox"/>	0.100	0.094	931.52	0.0015	P	13.6	-6.1
5	<input type="checkbox"/>	0.500	0.610	2405.45	0.0037	P	4.3	22.1
6	<input type="checkbox"/>	1.000	1.160	4022.59	0.0061	P	5.0	16.0
7	<input type="checkbox"/>	10.000	11.274	33175.08	0.0505	P	1.7	12.7
8	<input type="checkbox"/>	50.000	57.780	171259.28	0.2545	P	1.0	15.6
9	<input type="checkbox"/>	100.000	101.824	311022.00	0.4477	P	3.3	1.8
10	<input type="checkbox"/>	1000.000	999.416	2954883.64	4.3847	A	2.7	-0.1
11	<input type="checkbox"/>			958.14	0.0014	P	1.5	

$$y = 0.0044 * x + 0.0010$$

$$R = 1.0000$$

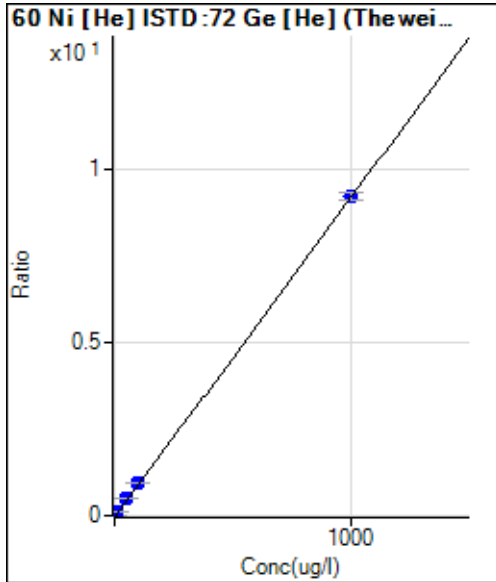
$$DL = 0.05992 \text{ ug/l}$$

$$BEC = 0.2378 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	120.00	0.0012	P	16.9	
2	<input type="checkbox"/>	0.025	0.028	143.34	0.0014	P	9.9	10.9
3	<input type="checkbox"/>	0.050	0.061	171.11	0.0017	P	16.3	22.5
4	<input type="checkbox"/>	0.100	0.120	225.56	0.0023	P	23.0	19.6
5	<input type="checkbox"/>	0.500	0.578	647.80	0.0065	P	3.4	15.5
6	<input type="checkbox"/>	1.000	1.144	1151.16	0.0117	P	3.0	14.4
7	<input type="checkbox"/>	10.000	11.090	10291.45	0.1036	P	4.4	10.9
8	<input type="checkbox"/>	50.000	55.858	53461.65	0.5171	P	2.0	11.7
9	<input type="checkbox"/>	100.000	100.846	96955.41	0.9327	P	0.6	0.8
10	<input type="checkbox"/>	1000.000	999.611	940354.58	9.2343	P	2.4	0.0
11	<input type="checkbox"/>			98.89	0.0010	P	4.3	

$$y = 0.0092 * x + 0.0012$$

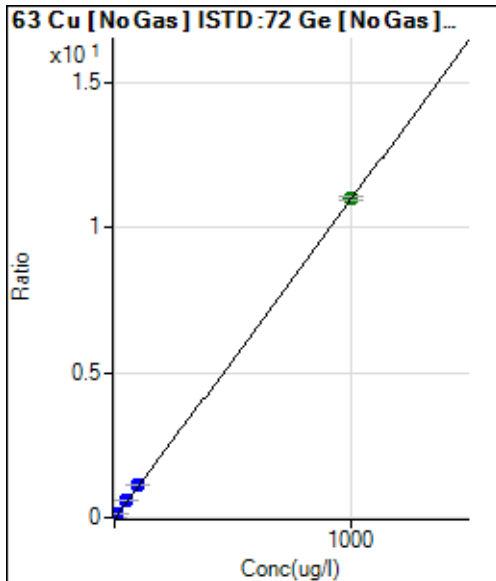
$$R = 1.0000$$

$$DL = 0.06468 \text{ ug/l}$$

$$BEC = 0.1275 \text{ ug/l}$$

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	1936.24	0.0029	P	2.8	
2	<input type="checkbox"/>	0.025	0.040	2191.05	0.0033	P	2.6	60.8
3	<input type="checkbox"/>	0.050	0.070	2391.16	0.0037	P	2.3	40.3
4	<input type="checkbox"/>	0.100	0.162	2993.51	0.0047	P	2.9	62.4
5	<input type="checkbox"/>	0.500	0.593	6086.38	0.0094	P	1.3	18.6
6	<input type="checkbox"/>	1.000	1.165	10302.44	0.0157	P	3.4	16.5
7	<input type="checkbox"/>	10.000	11.019	81492.58	0.1240	P	0.8	10.2
8	<input type="checkbox"/>	50.000	55.917	415643.57	0.6176	P	2.2	11.8
9	<input type="checkbox"/>	100.000	100.265	767704.11	1.1052	P	0.6	0.3
10	<input type="checkbox"/>	1000.000	999.667	7409089.47	10.9934	A	1.7	0.0
11	<input type="checkbox"/>			4746.68	0.0070	P	5.7	

$$y = 0.0110 * x + 0.0029$$

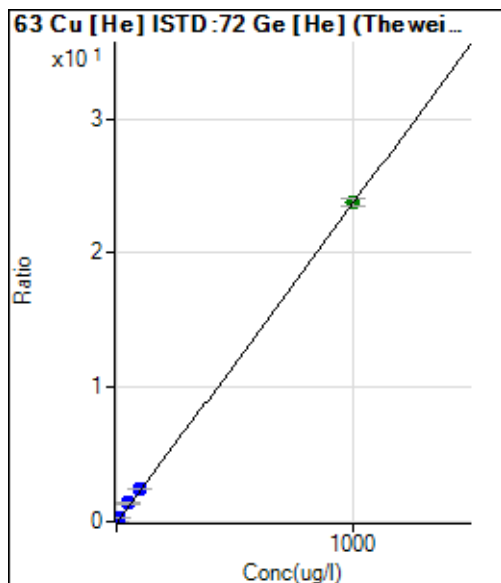
$$R = 1.0000$$

$$DL = 0.02222 \text{ ug/l}$$

$$BEC = 0.263 \text{ ug/l}$$

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	427.25	0.0042	P	2.4	
2	<input type="checkbox"/>	0.025	0.045	526.57	0.0053	P	4.1	80.6
3	<input type="checkbox"/>	0.050	0.065	562.57	0.0057	P	1.9	29.3
4	<input type="checkbox"/>	0.100	0.152	772.20	0.0078	P	2.4	52.0
5	<input type="checkbox"/>	0.500	0.576	1780.75	0.0179	P	2.4	15.3
6	<input type="checkbox"/>	1.000	1.219	3253.05	0.0332	P	2.2	21.9
7	<input type="checkbox"/>	10.000	11.424	27422.09	0.2760	P	3.7	14.2
8	<input type="checkbox"/>	50.000	57.286	141356.91	1.3672	P	1.3	14.6
9	<input type="checkbox"/>	100.000	103.515	256440.05	2.4671	P	1.5	3.5
10	<input type="checkbox"/>	1000.000	999.270	2421617.91	23.7800	A	2.2	-0.1
11	<input type="checkbox"/>			619.56	0.0063	P	2.3	

$$y = 0.0238 * x + 0.0042$$

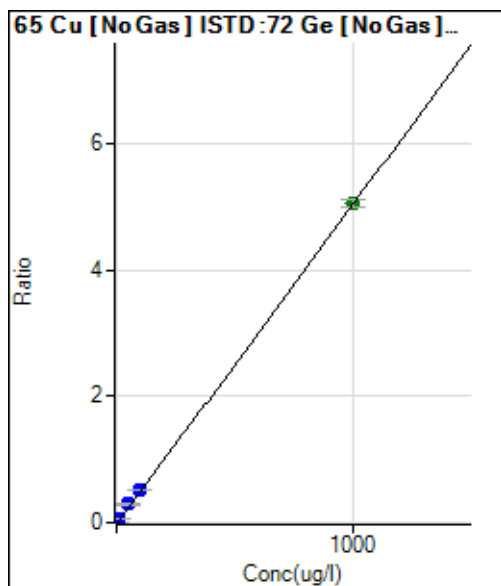
$$R = 1.0000$$

$$DL = 0.01266 \text{ ug/l}$$

$$BEC = 0.1763 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	627.60	0.0009	P	2.5	
2	<input type="checkbox"/>	0.025	0.036	734.98	0.0011	P	1.4	43.2
3	<input type="checkbox"/>	0.050	0.063	818.35	0.0013	P	4.7	25.3
4	<input type="checkbox"/>	0.100	0.160	1116.49	0.0017	P	8.8	59.7
5	<input type="checkbox"/>	0.500	0.606	2587.27	0.0040	P	3.0	21.2
6	<input type="checkbox"/>	1.000	1.177	4520.52	0.0069	P	2.3	17.7
7	<input type="checkbox"/>	10.000	11.432	38588.93	0.0587	P	2.3	14.3
8	<input type="checkbox"/>	50.000	57.620	196671.39	0.2922	P	2.8	15.2
9	<input type="checkbox"/>	100.000	103.767	365070.18	0.5256	P	0.9	3.8
10	<input type="checkbox"/>	1000.000	999.228	3405118.47	5.0528	A	2.8	-0.1
11	<input type="checkbox"/>			963.09	0.0014	P	2.6	

$$y = 0.0051 * x + 9.3688E-004$$

$$R = 1.0000$$

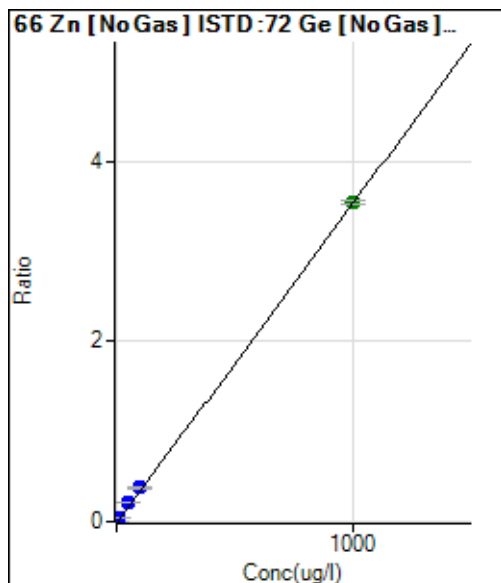
$$DL = 0.01417 \text{ ug/l}$$

$$BEC = 0.1853 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	450.32	0.0007	P	13.3	
2	<input type="checkbox"/>			872.97	0.0013	P	9.9	
3	<input type="checkbox"/>	0.050	0.092	650.09	0.0010	P	17.5	83.1
4	<input type="checkbox"/>	0.100	0.153	776.75	0.0012	P	8.8	52.9
5	<input type="checkbox"/>	0.500	0.728	2104.06	0.0033	P	9.1	45.6
6	<input type="checkbox"/>	1.000	1.074	2942.67	0.0045	P	3.0	7.4
7	<input type="checkbox"/>	10.000	11.333	26860.74	0.0409	P	2.1	13.3
8	<input type="checkbox"/>	50.000	58.838	140946.42	0.2094	P	1.2	17.7
9	<input type="checkbox"/>	100.000	105.698	260998.88	0.3757	P	1.8	5.7
10	<input type="checkbox"/>	1000.000	998.975	2389242.75	3.5452	A	1.8	-0.1
11	<input type="checkbox"/>			703.71	0.0010	P	28.1	

$$y = 0.0035 * x + 6.7128E-004$$

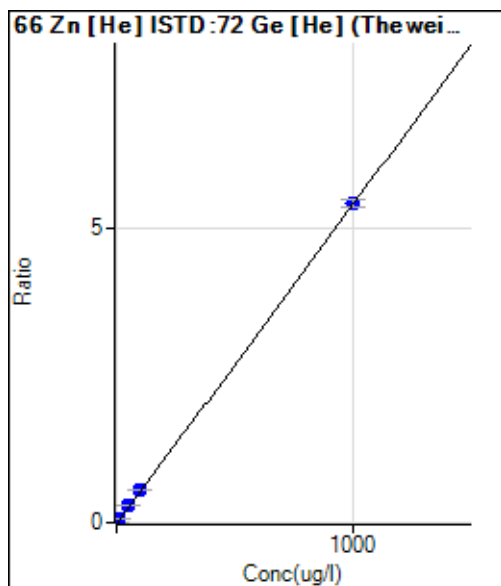
$$R = 1.0000$$

$$DL = 0.07537 \text{ ug/l}$$

$$BEC = 0.1892 \text{ ug/l}$$

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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	121.11	0.0012	P	12.2	
2	<input type="checkbox"/>			216.67	0.0022	P	4.1	
3	<input type="checkbox"/>	0.050	0.052	144.45	0.0015	P	6.5	4.3
4	<input type="checkbox"/>	0.100	0.156	201.12	0.0020	P	21.9	56.3
5	<input type="checkbox"/>	0.500	0.665	477.79	0.0048	P	5.2	32.9
6	<input type="checkbox"/>	1.000	1.029	665.58	0.0068	P	8.5	2.9
7	<input type="checkbox"/>	10.000	10.865	5995.71	0.0603	P	3.1	8.7
8	<input type="checkbox"/>	50.000	55.724	31479.52	0.3045	P	1.1	11.4
9	<input type="checkbox"/>	100.000	102.681	58202.32	0.5600	P	2.7	2.7
10	<input type="checkbox"/>	1000.000	999.437	554058.68	5.4406	P	2.0	-0.1
11	<input type="checkbox"/>			188.89	0.0019	P	18.3	

$$y = 0.0054 * x + 0.0012$$

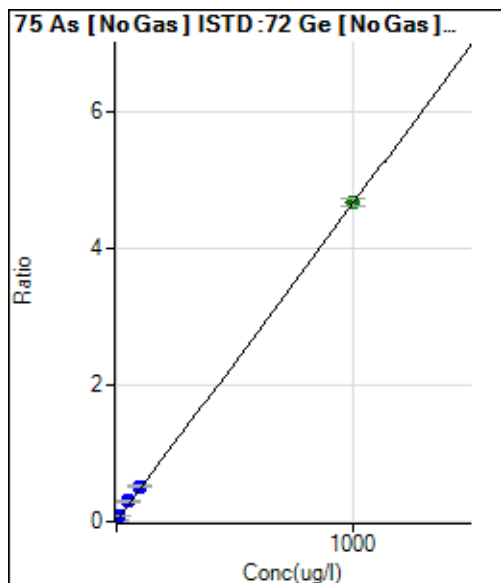
$$R = 1.0000$$

$$DL = 0.07993 \text{ ug/l}$$

$$BEC = 0.2184 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	24959.70	0.0373	P	9.3	
2	<input type="checkbox"/>	0.025	-2.803	15911.83	0.0243	P	23.9	-11310.
3	<input type="checkbox"/>	0.050	-2.412	17067.80	0.0261	P	25.7	-4924.2
4	<input type="checkbox"/>	0.100	-3.171	14449.75	0.0225	P	43.3	-3271.3
5	<input type="checkbox"/>	0.500	-3.884	12440.56	0.0192	P	64.8	-876.7
6	<input type="checkbox"/>	1.000	-5.626	7365.79	0.0111	P	71.3	-662.6
7	<input type="checkbox"/>	10.000	8.418	50191.85	0.0764	P	10.2	-15.8
8	<input type="checkbox"/>	50.000	55.714	199419.13	0.2964	P	3.8	11.4
9	<input type="checkbox"/>	100.000	104.106	362151.87	0.5214	P	5.1	4.1
10	<input type="checkbox"/>	1000.000	999.329	3156761.79	4.6842	A	2.2	-0.1
11	<input type="checkbox"/>			19182.38	0.0281	P	10.4	

$y = 0.0047 * x + 0.0373$

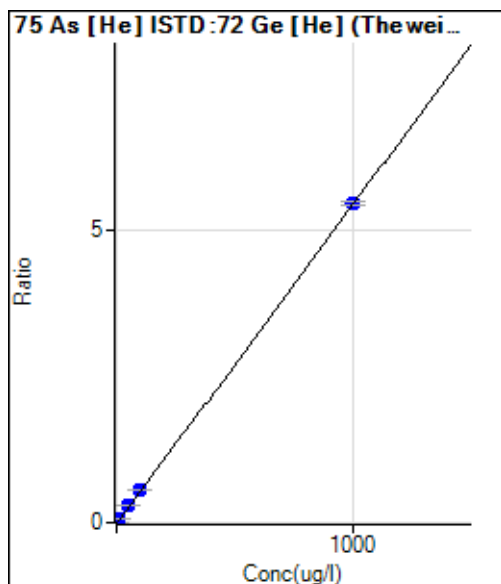
$R = 0.9999$

DL = 2.232 ug/l

BEC = 8.018 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	573.20	0.0056	P	1.9	
2	<input type="checkbox"/>	0.025	0.066	598.47	0.0060	P	1.3	163.3
3	<input type="checkbox"/>	0.050	0.096	603.47	0.0062	P	2.7	91.7
4	<input type="checkbox"/>	0.100	0.197	662.53	0.0067	P	3.9	97.0
5	<input type="checkbox"/>	0.500	0.605	888.21	0.0089	P	3.3	21.1
6	<input type="checkbox"/>	1.000	1.227	1207.90	0.0123	P	1.3	22.7
7	<input type="checkbox"/>	10.000	10.853	6449.50	0.0649	P	2.7	8.5
8	<input type="checkbox"/>	50.000	54.981	31628.62	0.3059	P	1.5	10.0
9	<input type="checkbox"/>	100.000	101.103	57983.73	0.5578	P	1.2	1.1
10	<input type="checkbox"/>	1000.000	999.632	556635.57	5.4654	P	1.5	0.0
11	<input type="checkbox"/>			814.54	0.0082	P	1.6	

$y = 0.0055 * x + 0.0056$

$R = 1.0000$

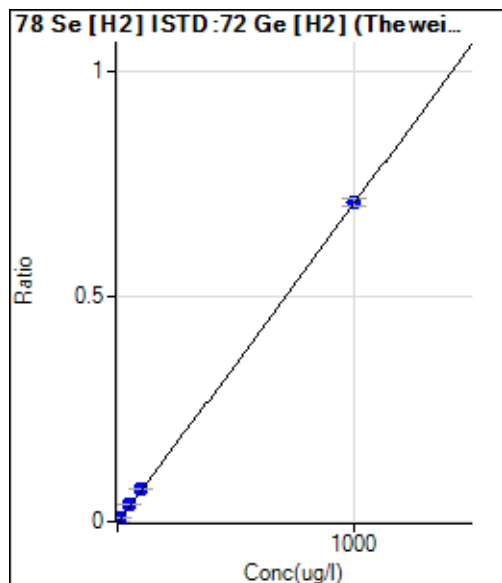
DL = 0.05832 ug/l

BEC = 1.03 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	39.44	0.0001	P	15.1	
2	<input type="checkbox"/>	0.025	0.037	50.22	0.0001	P	10.1	47.3
3	<input type="checkbox"/>	0.050	0.071	61.45	0.0001	P	3.7	42.4
4	<input type="checkbox"/>	0.100	0.112	72.89	0.0002	P	12.8	12.3
5	<input type="checkbox"/>	0.500	0.552	211.45	0.0005	P	6.3	10.4
6	<input type="checkbox"/>	1.000	1.074	378.45	0.0008	P	2.5	7.4
7	<input type="checkbox"/>	10.000	10.419	3312.38	0.0075	P	1.2	4.2
8	<input type="checkbox"/>	50.000	54.420	17348.55	0.0387	P	0.2	8.8
9	<input type="checkbox"/>	100.000	100.110	31715.79	0.0712	P	1.3	0.1
10	<input type="checkbox"/>	1000.000	999.764	300081.78	0.7099	P	2.3	0.0
11	<input type="checkbox"/>			114.67	0.0003	P	4.1	

$$y = 7.1002E-004 * x + 8.6542E-005$$

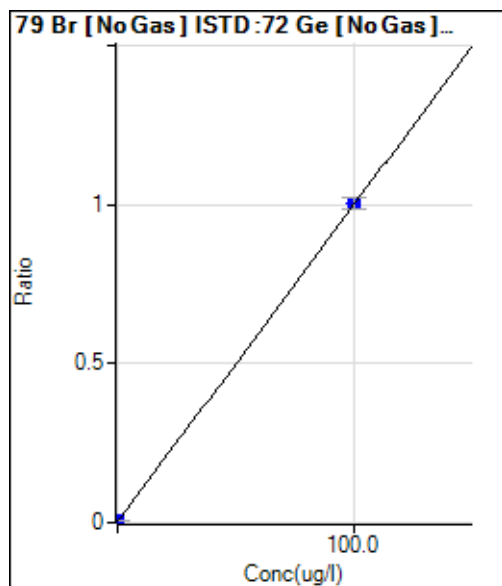
$$R = 1.0000$$

$$DL = 0.05524 \text{ ug/l}$$

$$BEC = 0.1219 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	5237.26	0.0078	P	8.3	
2	<input type="checkbox"/>			5653.25	0.0086	P	3.2	
3	<input type="checkbox"/>			5327.12	0.0082	P	5.7	
4	<input type="checkbox"/>			5317.12	0.0083	P	5.5	
5	<input type="checkbox"/>			5167.36	0.0080	P	4.1	
6	<input type="checkbox"/>			4701.46	0.0072	P	6.5	
7	<input type="checkbox"/>			5067.52	0.0077	P	4.4	
8	<input type="checkbox"/>			5370.37	0.0080	P	5.9	
9	<input type="checkbox"/>			5962.76	0.0086	P	3.4	
10	<input type="checkbox"/>			7463.84	0.0111	P	4.4	
11	<input type="checkbox"/>	100.000	100.000	685901.89	1.0056	P	3.9	0.0

$$y = 0.0100 * x + 0.0078$$

$$R = 1.0000$$

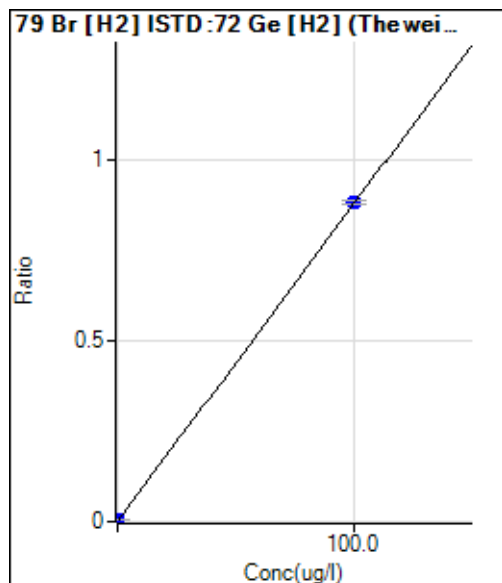
$$DL = 0.1955 \text{ ug/l}$$

$$BEC = 0.7831 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2561.82	0.0056	P	7.0	
2	<input type="checkbox"/>			3127.48	0.0070	P	1.1	
3	<input type="checkbox"/>			2804.71	0.0063	P	2.9	
4	<input type="checkbox"/>			2651.68	0.0060	P	4.3	
5	<input type="checkbox"/>			2714.89	0.0061	P	4.0	
6	<input type="checkbox"/>			2501.94	0.0056	P	4.3	
7	<input type="checkbox"/>			2538.52	0.0057	P	4.4	
8	<input type="checkbox"/>			2901.22	0.0065	P	6.6	
9	<input type="checkbox"/>			3180.71	0.0071	P	0.3	
10	<input type="checkbox"/>			9427.75	0.0223	P	1.2	
11	<input type="checkbox"/>	100.000	100.000	393207.14	0.8846	P	1.8	0.0

$y = 0.0088 * x + 0.0056$

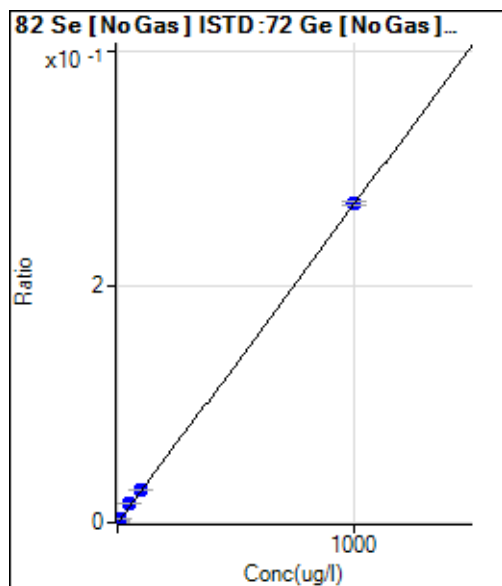
$R = 1.0000$

DL = 0.1353 ug/l

BEC = 0.6399 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	672.74	0.0010	P	15.5	
2	<input type="checkbox"/>	0.025	-0.460	577.67	0.0009	P	21.6	-1941.4
3	<input type="checkbox"/>	0.050	-0.233	616.22	0.0009	P	19.1	-566.9
4	<input type="checkbox"/>	0.100	-0.078	629.94	0.0010	P	10.5	-178.2
5	<input type="checkbox"/>	0.500	0.133	672.21	0.0010	P	27.7	-73.4
6	<input type="checkbox"/>	1.000	0.832	805.95	0.0012	P	10.4	-16.8
7	<input type="checkbox"/>	10.000	10.556	2532.00	0.0039	P	5.7	5.6
8	<input type="checkbox"/>	50.000	57.194	11067.91	0.0164	P	1.4	14.4
9	<input type="checkbox"/>	100.000	99.700	19393.67	0.0279	P	1.6	-0.3
10	<input type="checkbox"/>	1000.000	999.665	182574.75	0.2709	P	1.6	0.0
11	<input type="checkbox"/>			1026.64	0.0015	P	13.6	

$y = 2.6999E-004 * x + 0.0010$

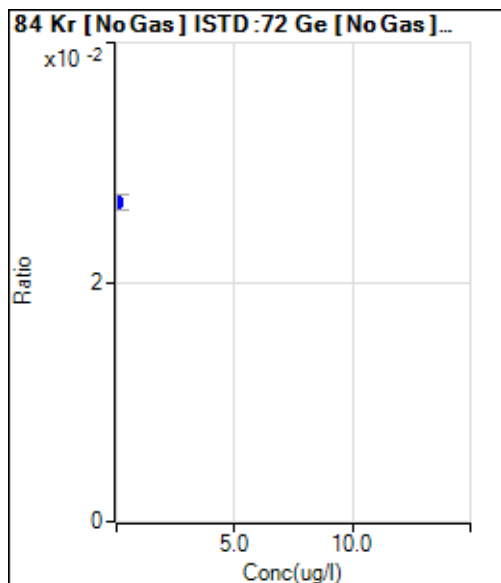
$R = 1.0000$

DL = 1.732 ug/l

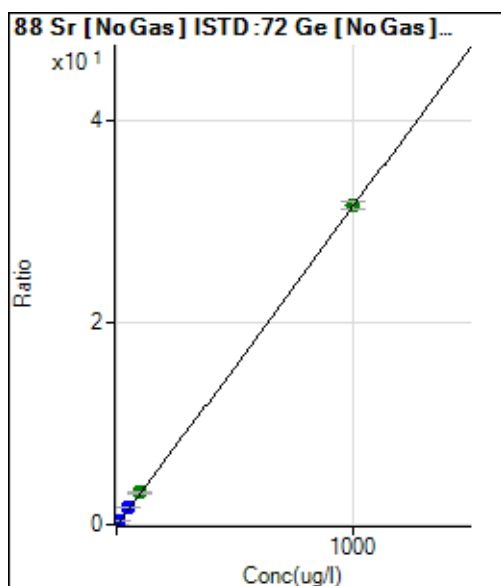
BEC = 3.721 ug/l

Weight: 1/y

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000		17879.00	0.0267	P	4.9	
2	<input type="checkbox"/>			17459.48	0.0265	P	2.8	
3	<input type="checkbox"/>			17582.69	0.0269	P	7.8	
4	<input type="checkbox"/>			17079.61	0.0267	P	10.3	
5	<input type="checkbox"/>			18222.02	0.0282	P	4.1	
6	<input type="checkbox"/>			17535.97	0.0267	P	8.3	
7	<input type="checkbox"/>			18205.50	0.0277	P	9.0	
8	<input type="checkbox"/>			25015.46	0.0372	P	4.0	
9	<input type="checkbox"/>			31868.52	0.0459	P	1.1	
10	<input type="checkbox"/>			151137.44	0.2243	P	2.7	
11	<input type="checkbox"/>			18355.23	0.0269	P	1.1	



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	262.82	0.0004	P	13.0	
2	<input type="checkbox"/>	0.025	0.031	911.56	0.0014	P	13.2	25.5
3	<input type="checkbox"/>	0.050	0.064	1583.61	0.0024	P	6.7	28.6
4	<input type="checkbox"/>	0.100	0.126	2794.74	0.0044	P	10.3	25.6
5	<input type="checkbox"/>	0.500	0.551	11525.15	0.0178	P	4.3	10.1
6	<input type="checkbox"/>	1.000	1.121	23556.02	0.0359	P	0.5	12.1
7	<input type="checkbox"/>	10.000	10.813	225194.11	0.3428	P	3.6	8.1
8	<input type="checkbox"/>	50.000	56.180	1197321.07	1.7792	P	1.3	12.4
9	<input type="checkbox"/>	100.000	99.833	2195524.06	3.1613	A	2.4	-0.2
10	<input type="checkbox"/>	1000.000	999.699	21332844.86	31.6529	A	2.3	0.0
11	<input type="checkbox"/>			761.84	0.0011	P	15.6	

$$y = 0.0317 * x + 3.9182E-004$$

$$R = 1.0000$$

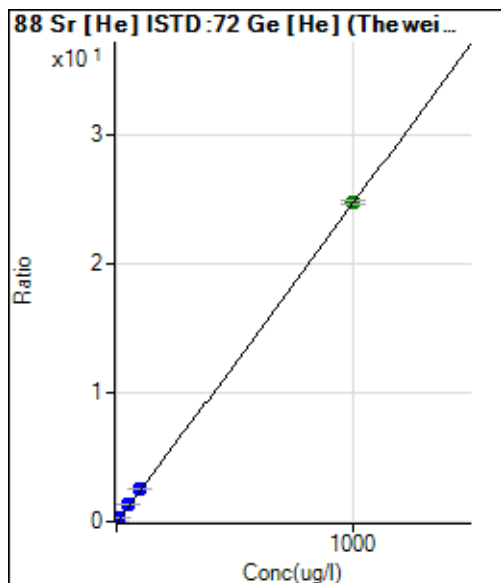
$$DL = 0.004835 \text{ ug/l}$$

$$BEC = 0.01238 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	52.22	0.0005	P	32.9	
2	<input type="checkbox"/>	0.025	0.033	133.33	0.0013	P	15.2	32.2
3	<input type="checkbox"/>	0.050	0.067	213.33	0.0022	P	25.4	34.3
4	<input type="checkbox"/>	0.100	0.122	348.90	0.0035	P	10.6	21.6
5	<input type="checkbox"/>	0.500	0.528	1354.52	0.0136	P	2.4	5.7
6	<input type="checkbox"/>	1.000	1.199	2962.55	0.0302	P	4.2	19.9
7	<input type="checkbox"/>	10.000	10.905	26920.89	0.2710	P	3.9	9.1
8	<input type="checkbox"/>	50.000	56.304	144432.10	1.3970	P	2.6	12.6
9	<input type="checkbox"/>	100.000	102.563	264448.31	2.5444	P	2.4	2.6
10	<input type="checkbox"/>	1000.000	999.419	2524598.24	24.7892	A	1.7	-0.1
11	<input type="checkbox"/>			135.56	0.0014	P	14.1	

$$y = 0.0248 * x + 5.1340E-004$$

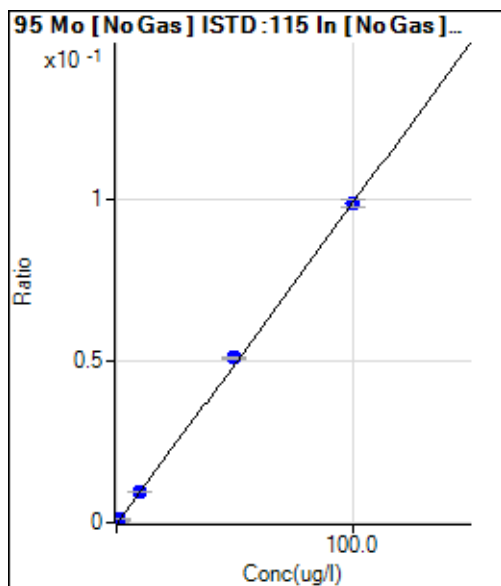
$$R = 1.0000$$

$$DL = 0.02042 \text{ ug/l}$$

$$BEC = 0.0207 \text{ ug/l}$$

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

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	30.00	0.0000	P	29.1	
2	<input type="checkbox"/>	0.025	0.020	116.67	0.0000	P	31.0	-20.7
3	<input type="checkbox"/>	0.050	0.044	228.89	0.0001	P	5.8	-11.1
4	<input type="checkbox"/>	0.100	0.092	426.68	0.0001	P	2.1	-8.4
5	<input type="checkbox"/>	0.500	0.475	2073.50	0.0005	P	4.9	-5.1
6	<input type="checkbox"/>	1.000	0.966	4212.88	0.0010	P	3.4	-3.4
7	<input type="checkbox"/>	10.000	9.591	41937.10	0.0095	P	0.9	-4.1
8	<input type="checkbox"/>	50.000	51.305	221583.56	0.0509	P	0.7	2.6
9	<input type="checkbox"/>	100.000	99.389	414792.41	0.0986	P	2.3	-0.6
10	<input type="checkbox"/>			546.68	0.0001	P	7.9	
11	<input type="checkbox"/>			170.00	0.0000	P	8.4	

$$y = 9.9175E-004 * x + 6.5714E-006$$

$$R = 0.9999$$

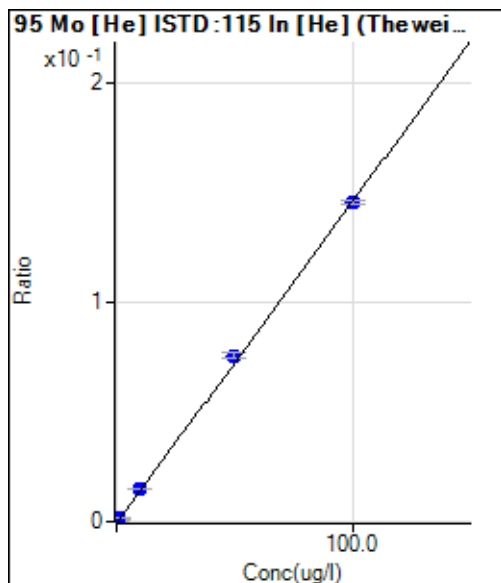
$$DL = 0.005793 \text{ ug/l}$$

$$BEC = 0.006626 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	64.1	
2	<input type="checkbox"/>	0.025	0.025	45.56	0.0000	P	18.9	-0.9
3	<input type="checkbox"/>	0.050	0.053	87.78	0.0001	P	10.3	6.1
4	<input type="checkbox"/>	0.100	0.106	168.89	0.0002	P	17.5	6.0
5	<input type="checkbox"/>	0.500	0.492	751.14	0.0007	P	6.5	-1.5
6	<input type="checkbox"/>	1.000	1.019	1536.76	0.0015	P	1.5	1.9
7	<input type="checkbox"/>	10.000	10.099	15536.27	0.0149	P	1.2	1.0
8	<input type="checkbox"/>	50.000	51.650	79885.36	0.0760	P	3.1	3.3
9	<input type="checkbox"/>	100.000	99.165	151157.39	0.1458	P	1.0	-0.8
10	<input type="checkbox"/>			122.22	0.0001	P	24.3	
11	<input type="checkbox"/>			42.22	0.0000	P	18.9	

$$y = 0.0015 * x + 7.2691E-006$$

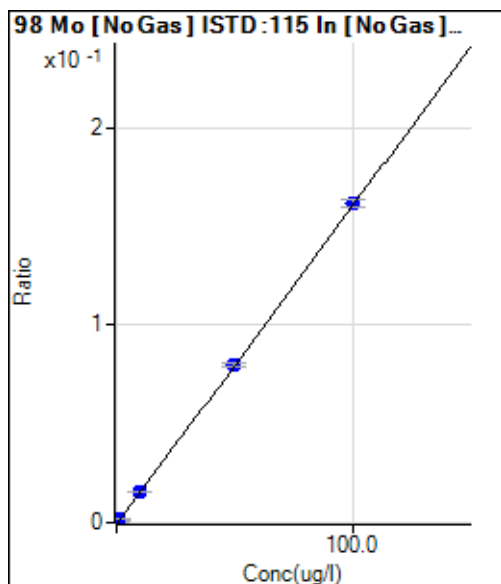
$$R = 0.9998$$

$$DL = 0.009508 \text{ ug/l}$$

$$BEC = 0.004943 \text{ ug/l}$$

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	27.91	0.0000	P	28.8	
2	<input type="checkbox"/>	0.025	0.021	180.14	0.0000	P	15.3	-14.9
3	<input type="checkbox"/>	0.050	0.045	355.70	0.0001	P	4.8	-9.9
4	<input type="checkbox"/>	0.100	0.106	777.46	0.0002	P	3.7	6.2
5	<input type="checkbox"/>	0.500	0.478	3383.27	0.0008	P	8.8	-4.3
6	<input type="checkbox"/>	1.000	0.960	6798.96	0.0016	P	3.6	-4.0
7	<input type="checkbox"/>	10.000	9.495	67569.91	0.0153	P	2.8	-5.0
8	<input type="checkbox"/>	50.000	49.620	348966.91	0.0801	P	2.1	-0.8
9	<input type="checkbox"/>	100.000	100.241	681159.19	0.1619	P	2.1	0.2
10	<input type="checkbox"/>			959.00	0.0002	P	8.0	
11	<input type="checkbox"/>			156.18	0.0000	P	4.9	

$$y = 0.0016 * x + 6.1115E-006$$

$$R = 1.0000$$

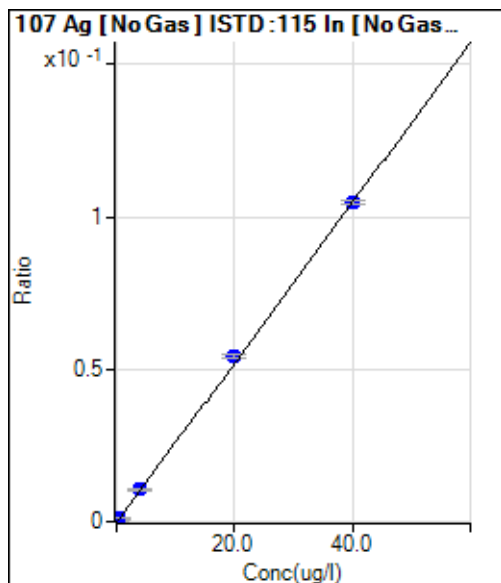
$$DL = 0.00327 \text{ ug/l}$$

$$BEC = 0.003784 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	864.38	0.0002	P	7.4	
2	<input type="checkbox"/>	0.010	0.018	1049.13	0.0002	P	7.2	75.6
3	<input type="checkbox"/>	0.020	0.023	1122.50	0.0002	P	4.5	12.8
4	<input type="checkbox"/>	0.040	0.043	1320.59	0.0003	P	8.0	6.8
5	<input type="checkbox"/>	0.200	0.207	3187.64	0.0007	P	2.3	3.4
6	<input type="checkbox"/>	0.400	0.401	5436.56	0.0012	P	2.6	0.3
7	<input type="checkbox"/>	4.000	3.907	46120.34	0.0105	P	1.0	-2.3
8	<input type="checkbox"/>	20.000	20.483	235488.91	0.0541	P	2.0	2.4
9	<input type="checkbox"/>	40.000	39.768	441049.83	0.1048	P	1.8	-0.6
10	<input type="checkbox"/>			3790344.80	0.9013	A	1.7	
11	<input type="checkbox"/>			2242.42	0.0005	P	6.5	

$$y = 0.0026 * x + 1.8939E-004$$

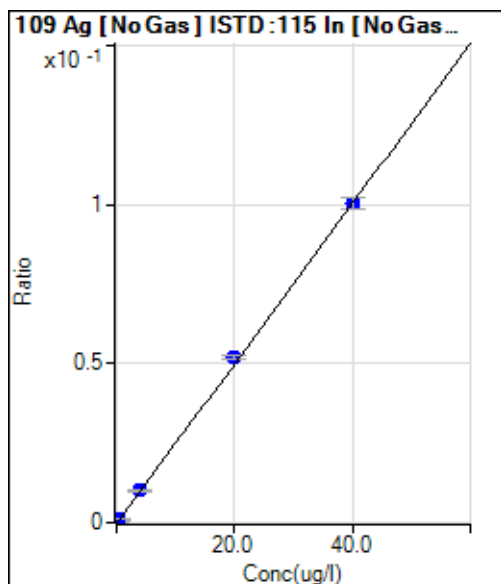
$$R = 0.9999$$

$$DL = 0.01589 \text{ ug/l}$$

$$BEC = 0.07198 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	859.04	0.0002	P	1.4	
2	<input type="checkbox"/>	0.010	0.014	999.78	0.0002	P	7.3	43.7
3	<input type="checkbox"/>	0.020	0.018	1053.13	0.0002	P	8.1	-10.1
4	<input type="checkbox"/>	0.040	0.043	1299.25	0.0003	P	3.9	7.8
5	<input type="checkbox"/>	0.200	0.198	2980.85	0.0007	P	2.9	-1.2
6	<input type="checkbox"/>	0.400	0.403	5253.09	0.0012	P	2.3	0.7
7	<input type="checkbox"/>	4.000	3.887	43957.41	0.0100	P	1.7	-2.8
8	<input type="checkbox"/>	20.000	20.527	225986.25	0.0519	P	1.9	2.6
9	<input type="checkbox"/>	40.000	39.748	422039.51	0.1003	P	3.3	-0.6
10	<input type="checkbox"/>			3601212.32	0.8563	A	0.9	
11	<input type="checkbox"/>			2128.35	0.0005	P	7.8	

$$y = 0.0025 * x + 1.8826E-004$$

$$R = 0.9999$$

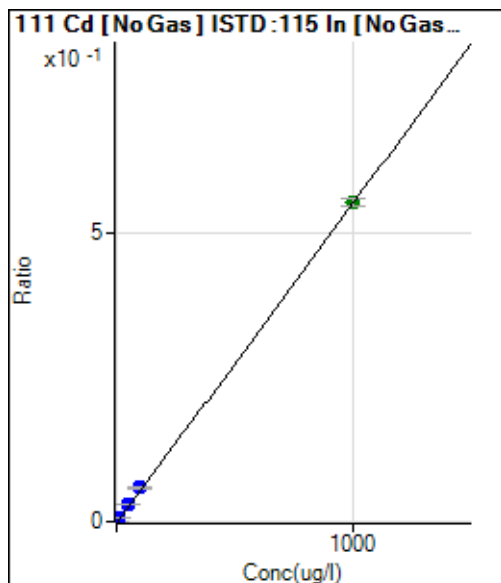
$$DL = 0.003054 \text{ ug/l}$$

$$BEC = 0.07474 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-7.39	0.0000	P	-322.	
2	<input type="checkbox"/>	0.025	0.037	83.41	0.0000	P	28.8	47.3
3	<input type="checkbox"/>	0.050	0.045	105.05	0.0000	P	12.4	-10.0
4	<input type="checkbox"/>	0.100	0.111	261.19	0.0001	P	6.3	10.8
5	<input type="checkbox"/>	0.500	0.525	1253.88	0.0003	P	3.6	5.0
6	<input type="checkbox"/>	1.000	1.103	2655.67	0.0006	P	1.5	10.3
7	<input type="checkbox"/>	10.000	10.374	25252.82	0.0057	P	0.7	3.7
8	<input type="checkbox"/>	50.000	55.408	133340.87	0.0306	P	1.1	10.8
9	<input type="checkbox"/>	100.000	106.167	246894.26	0.0587	P	1.9	6.2
10	<input type="checkbox"/>	1000.000	999.109	2322013.31	0.5522	A	2.4	-0.1
11	<input type="checkbox"/>			56.53	0.0000	P	111.6	

$$y = 5.5268E-004 * x - 1.6026E-006$$

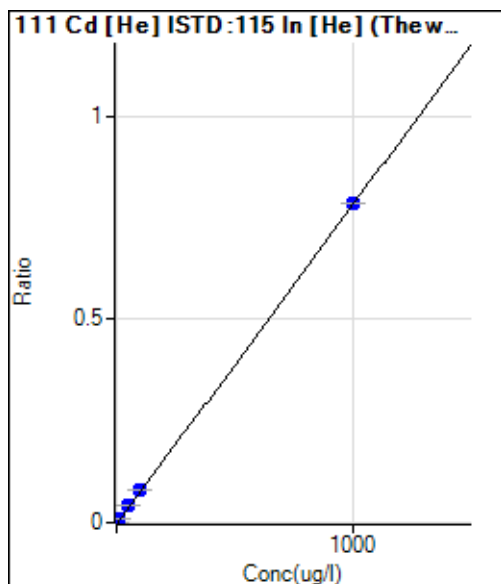
$$R = 1.0000$$

$$DL = 0.02802 \text{ ug/l}$$

$$BEC = -0.0029 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	5.00	0.0000	P	33.5	
2	<input type="checkbox"/>	0.025	0.028	27.56	0.0000	P	6.8	10.4
3	<input type="checkbox"/>	0.050	0.052	46.89	0.0000	P	5.8	4.0
4	<input type="checkbox"/>	0.100	0.114	97.78	0.0001	P	3.5	14.1
5	<input type="checkbox"/>	0.500	0.521	425.12	0.0004	P	2.0	4.2
6	<input type="checkbox"/>	1.000	1.082	872.03	0.0009	P	1.7	8.2
7	<input type="checkbox"/>	10.000	10.359	8515.33	0.0081	P	0.2	3.6
8	<input type="checkbox"/>	50.000	54.511	45049.93	0.0428	P	2.4	9.0
9	<input type="checkbox"/>	100.000	100.311	81705.01	0.0788	P	0.7	0.3
10	<input type="checkbox"/>	1000.000	999.740	785027.67	0.7856	P	0.6	0.0
11	<input type="checkbox"/>			35.00	0.0000	P	2.2	

$$y = 7.8577E-004 * x + 4.7150E-006$$

$$R = 1.0000$$

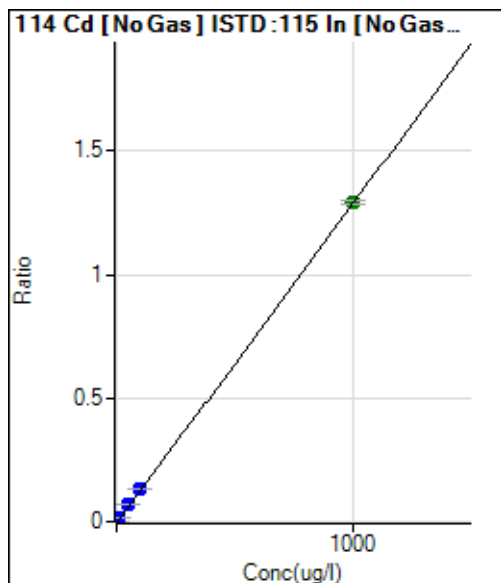
$$DL = 0.00603 \text{ ug/l}$$

$$BEC = 0.006 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-72.25	0.0000	P	-21.2	
2	<input type="checkbox"/>	0.025	0.025	74.28	0.0000	P	71.5	0.7
3	<input type="checkbox"/>	0.050	0.041	167.41	0.0000	P	38.2	-18.2
4	<input type="checkbox"/>	0.100	0.112	562.25	0.0001	P	5.4	11.6
5	<input type="checkbox"/>	0.500	0.516	2830.33	0.0007	P	4.3	3.1
6	<input type="checkbox"/>	1.000	1.033	5764.62	0.0013	P	1.8	3.3
7	<input type="checkbox"/>	10.000	9.984	56817.11	0.0129	P	1.3	-0.2
8	<input type="checkbox"/>	50.000	53.388	300634.83	0.0690	P	1.1	6.8
9	<input type="checkbox"/>	100.000	101.869	554358.40	0.1317	P	1.9	1.9
10	<input type="checkbox"/>	1000.000	999.644	5437220.15	1.2930	A	1.6	0.0
11	<input type="checkbox"/>			46.59	0.0000	P	77.7	

$y = 0.0013 * x - 1.5824E-005$

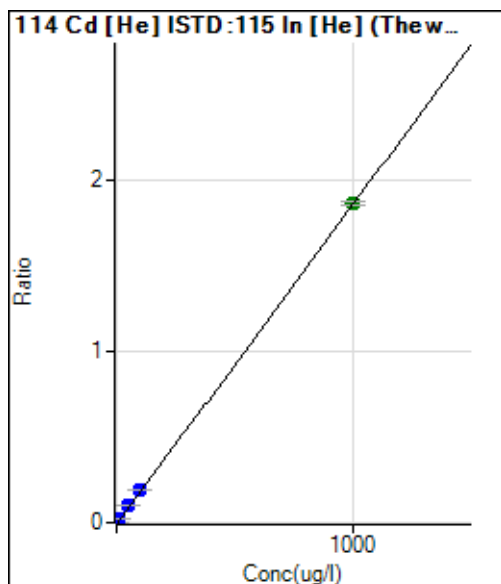
$R = 1.0000$

DL = 0.007775 ug/l

BEC = -0.01223 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	13.01	0.0000	P	28.8	
2	<input type="checkbox"/>	0.025	0.022	54.73	0.0001	P	12.7	-13.8
3	<input type="checkbox"/>	0.050	0.046	101.16	0.0001	P	8.8	-7.7
4	<input type="checkbox"/>	0.100	0.121	246.54	0.0002	P	3.4	20.8
5	<input type="checkbox"/>	0.500	0.528	1025.79	0.0010	P	0.3	5.6
6	<input type="checkbox"/>	1.000	1.108	2125.23	0.0021	P	1.8	10.8
7	<input type="checkbox"/>	10.000	10.678	20872.59	0.0200	P	0.9	6.8
8	<input type="checkbox"/>	50.000	55.862	109792.98	0.1044	P	2.1	11.7
9	<input type="checkbox"/>	100.000	103.278	200038.35	0.1930	P	0.4	3.3
10	<input type="checkbox"/>	1000.000	999.372	1866100.57	1.8675	A	0.9	-0.1
11	<input type="checkbox"/>			58.74	0.0001	P	9.4	

$y = 0.0019 * x + 1.2203E-005$

$R = 1.0000$

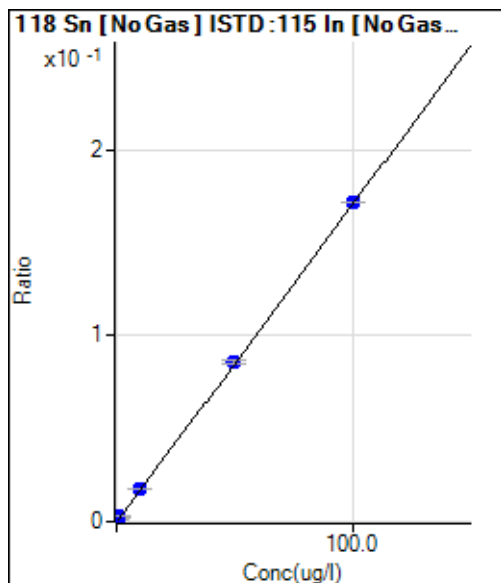
DL = 0.00565 ug/l

BEC = 0.006531 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2605.08	0.0006	P	4.2	
2	<input type="checkbox"/>	0.025	0.743	8209.44	0.0018	P	1.0	2872.0
3	<input type="checkbox"/>	0.050	0.750	8365.92	0.0019	P	3.0	1399.4
4	<input type="checkbox"/>	0.100	0.845	8825.30	0.0020	P	3.4	744.9
5	<input type="checkbox"/>	0.500	0.965	9654.20	0.0022	P	2.5	93.0
6	<input type="checkbox"/>	1.000	1.721	15351.39	0.0035	P	2.9	72.1
7	<input type="checkbox"/>	10.000	10.115	78789.76	0.0179	P	1.9	1.1
8	<input type="checkbox"/>	50.000	49.714	372986.39	0.0857	P	2.9	-0.6
9	<input type="checkbox"/>	100.000	100.121	723438.62	0.1719	P	0.6	0.1
10	<input type="checkbox"/>			8362.57	0.0020	P	7.7	
11	<input type="checkbox"/>			11458.66	0.0027	P	3.0	

$y = 0.0017 * x + 5.7092E-004$

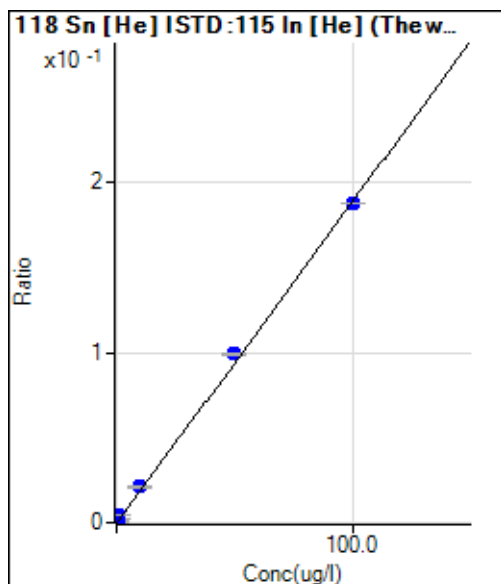
R = 1.0000

DL = 0.04251 ug/l

BEC = 0.3336 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	580.02	0.0005	P	8.7	
2	<input type="checkbox"/>	0.025	0.799	2150.18	0.0021	P	2.4	3096.5
3	<input type="checkbox"/>	0.050	0.845	2207.97	0.0021	P	2.3	1589.1
4	<input type="checkbox"/>	0.100	0.973	2478.02	0.0024	P	6.7	873.4
5	<input type="checkbox"/>	0.500	1.086	2675.83	0.0026	P	3.3	117.3
6	<input type="checkbox"/>	1.000	1.841	4117.30	0.0040	P	3.0	84.1
7	<input type="checkbox"/>	10.000	10.769	21914.90	0.0210	P	0.2	7.7
8	<input type="checkbox"/>	50.000	52.044	104327.08	0.0992	P	1.8	4.1
9	<input type="checkbox"/>	100.000	98.888	194845.71	0.1880	P	0.5	-1.1
10	<input type="checkbox"/>			2223.52	0.0022	P	4.5	
11	<input type="checkbox"/>			3235.95	0.0031	P	1.8	

$y = 0.0019 * x + 5.4625E-004$

R = 0.9998

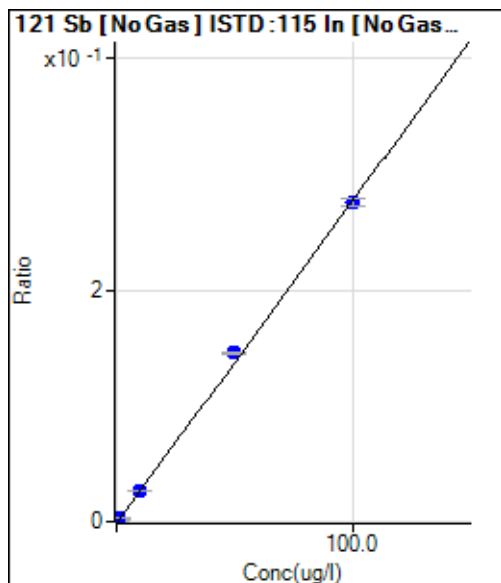
DL = 0.07507 ug/l

BEC = 0.2882 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	130.01	0.0000	P	7.5	
2	<input type="checkbox"/>	0.025	0.023	413.71	0.0001	P	6.2	-7.6
3	<input type="checkbox"/>	0.050	0.047	718.43	0.0002	P	3.9	-6.2
4	<input type="checkbox"/>	0.100	0.105	1407.21	0.0003	P	1.0	5.2
5	<input type="checkbox"/>	0.500	0.473	5844.80	0.0013	P	2.1	-5.4
6	<input type="checkbox"/>	1.000	0.978	12025.34	0.0028	P	2.4	-2.2
7	<input type="checkbox"/>	10.000	9.433	115865.51	0.0263	P	2.5	-5.7
8	<input type="checkbox"/>	50.000	52.178	632961.37	0.1454	P	0.8	4.4
9	<input type="checkbox"/>	100.000	98.968	1160028.85	0.2757	P	2.5	-1.0
10	<input type="checkbox"/>			2296.09	0.0005	P	0.5	
11	<input type="checkbox"/>			724.42	0.0002	P	1.0	

$$y = 0.0028 * x + 2.8486E-005$$

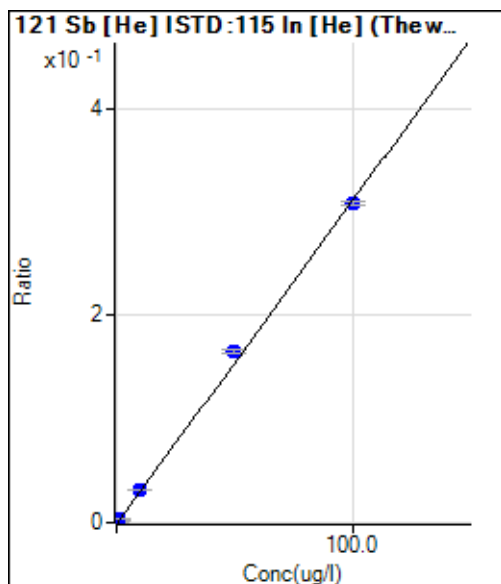
$$R = 0.9997$$

$$DL = 0.002316 \text{ ug/l}$$

$$BEC = 0.01023 \text{ ug/l}$$

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	34.33	0.0000	P	7.4	
2	<input type="checkbox"/>	0.025	0.027	120.68	0.0001	P	7.2	6.7
3	<input type="checkbox"/>	0.050	0.051	198.69	0.0002	P	7.2	2.9
4	<input type="checkbox"/>	0.100	0.098	351.04	0.0003	P	4.9	-2.0
5	<input type="checkbox"/>	0.500	0.492	1613.26	0.0016	P	3.1	-1.6
6	<input type="checkbox"/>	1.000	1.021	3289.72	0.0032	P	1.9	2.1
7	<input type="checkbox"/>	10.000	9.882	32341.17	0.0309	P	0.6	-1.2
8	<input type="checkbox"/>	50.000	52.876	173927.61	0.1654	P	1.4	5.8
9	<input type="checkbox"/>	100.000	98.574	319483.79	0.3083	P	0.8	-1.4
10	<input type="checkbox"/>			482.73	0.0005	P	4.7	
11	<input type="checkbox"/>			182.69	0.0002	P	2.2	

$$y = 0.0031 * x + 3.2311E-005$$

$$R = 0.9995$$

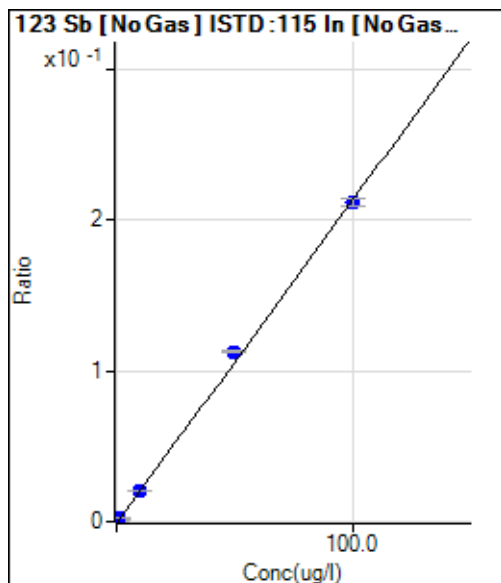
$$DL = 0.002286 \text{ ug/l}$$

$$BEC = 0.01033 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	98.68	0.0000	P	7.7	
2	<input type="checkbox"/>	0.025	0.025	335.71	0.0001	P	9.5	0.3
3	<input type="checkbox"/>	0.050	0.050	579.40	0.0001	P	7.0	-0.3
4	<input type="checkbox"/>	0.100	0.103	1064.48	0.0002	P	2.5	3.4
5	<input type="checkbox"/>	0.500	0.474	4511.85	0.0010	P	1.0	-5.1
6	<input type="checkbox"/>	1.000	0.965	9131.89	0.0021	P	0.9	-3.5
7	<input type="checkbox"/>	10.000	9.418	89038.02	0.0202	P	1.9	-5.8
8	<input type="checkbox"/>	50.000	52.599	491068.25	0.1128	P	1.0	5.2
9	<input type="checkbox"/>	100.000	98.759	890859.33	0.2117	P	2.8	-1.2
10	<input type="checkbox"/>			1861.98	0.0004	P	2.5	
11	<input type="checkbox"/>			566.40	0.0001	P	3.9	

$$y = 0.0021 * x + 2.1626E-005$$

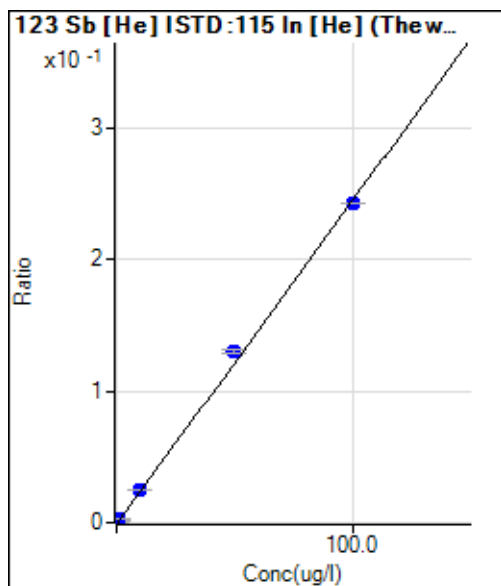
$$R = 0.9996$$

$$DL = 0.002334 \text{ ug/l}$$

$$BEC = 0.01009 \text{ ug/l}$$

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	27.00	0.0000	P	9.3	
2	<input type="checkbox"/>	0.025	0.031	105.01	0.0001	P	12.6	22.1
3	<input type="checkbox"/>	0.050	0.055	165.02	0.0002	P	8.3	9.5
4	<input type="checkbox"/>	0.100	0.106	298.03	0.0003	P	5.6	6.4
5	<input type="checkbox"/>	0.500	0.504	1303.19	0.0013	P	2.7	0.9
6	<input type="checkbox"/>	1.000	1.052	2671.19	0.0026	P	1.8	5.2
7	<input type="checkbox"/>	10.000	10.040	25904.02	0.0248	P	0.3	0.4
8	<input type="checkbox"/>	50.000	52.867	137094.97	0.1304	P	2.1	5.7
9	<input type="checkbox"/>	100.000	98.562	251876.98	0.2430	P	0.4	-1.4
10	<input type="checkbox"/>			412.05	0.0004	P	10.1	
11	<input type="checkbox"/>			160.69	0.0002	P	8.3	

$$y = 0.0025 * x + 2.5399E-005$$

$$R = 0.9995$$

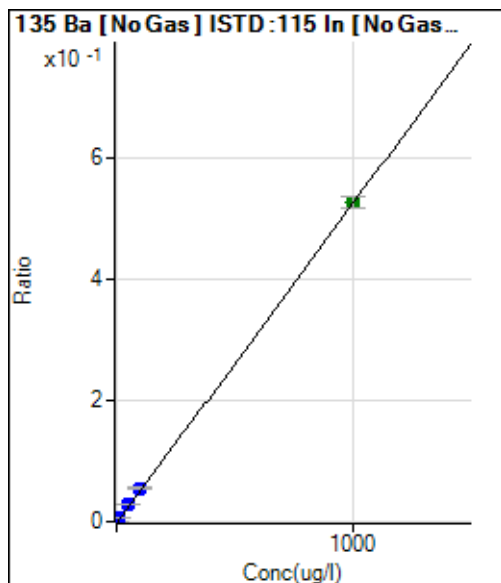
$$DL = 0.002859 \text{ ug/l}$$

$$BEC = 0.0103 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	13.31	0.0000	P	114.3	
2	<input type="checkbox"/>	0.025	0.023	66.53	0.0000	P	17.6	-8.7
3	<input type="checkbox"/>	0.050	0.063	163.01	0.0000	P	43.4	26.8
4	<input type="checkbox"/>	0.100	0.121	292.76	0.0001	P	14.8	21.4
5	<input type="checkbox"/>	0.500	0.579	1337.42	0.0003	P	2.3	15.8
6	<input type="checkbox"/>	1.000	1.062	2455.37	0.0006	P	4.6	6.2
7	<input type="checkbox"/>	10.000	10.093	23439.86	0.0053	P	3.9	0.9
8	<input type="checkbox"/>	50.000	55.342	126973.49	0.0292	P	1.2	10.7
9	<input type="checkbox"/>	100.000	105.020	232808.69	0.0553	P	1.8	5.0
10	<input type="checkbox"/>	1000.000	999.230	2213572.52	0.5264	A	3.1	-0.1
11	<input type="checkbox"/>			56.55	0.0000	P	19.1	

$$y = 5.2682E-004 * x + 2.9158E-006$$

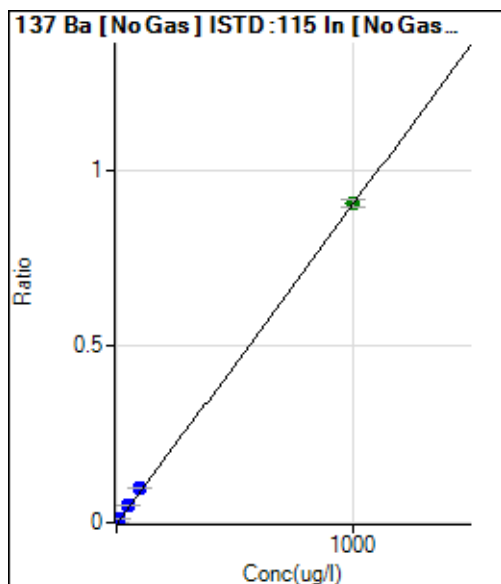
$$R = 1.0000$$

$$DL = 0.01897 \text{ ug/l}$$

$$BEC = 0.005535 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	29.94	0.0000	P	120.1	
2	<input type="checkbox"/>	0.025	0.024	126.42	0.0000	P	25.4	-3.6
3	<input type="checkbox"/>	0.050	0.046	219.57	0.0000	P	26.7	-7.4
4	<input type="checkbox"/>	0.100	0.125	522.31	0.0001	P	11.5	24.7
5	<input type="checkbox"/>	0.500	0.521	2079.37	0.0005	P	2.8	4.2
6	<input type="checkbox"/>	1.000	0.995	3966.04	0.0009	P	5.8	-0.5
7	<input type="checkbox"/>	10.000	10.211	40782.19	0.0093	P	1.4	2.1
8	<input type="checkbox"/>	50.000	55.273	218110.76	0.0501	P	2.9	10.5
9	<input type="checkbox"/>	100.000	105.898	403735.02	0.0959	P	0.9	5.9
10	<input type="checkbox"/>	1000.000	999.144	3806452.24	0.9052	A	2.3	-0.1
11	<input type="checkbox"/>			143.05	0.0000	P	20.9	

$$y = 9.0597E-004 * x + 6.5400E-006$$

$$R = 1.0000$$

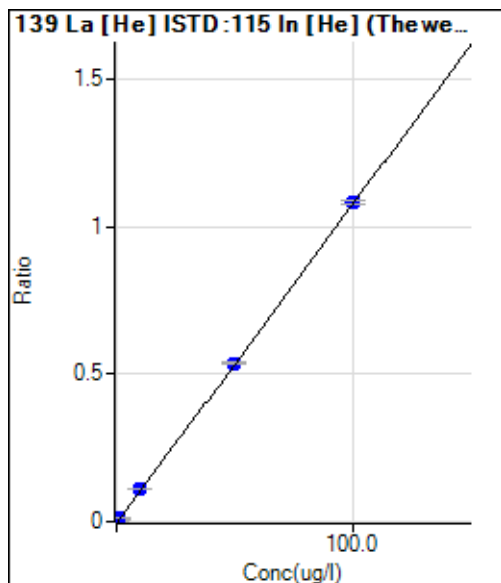
$$DL = 0.02602 \text{ ug/l}$$

$$BEC = 0.007219 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	12.9	
2	<input type="checkbox"/>	0.025	0.024	284.45	0.0003	P	1.3	-4.2
3	<input type="checkbox"/>	0.050	0.052	592.24	0.0006	P	6.5	4.0
4	<input type="checkbox"/>	0.100	0.112	1266.73	0.0012	P	2.1	11.8
5	<input type="checkbox"/>	0.500	0.510	5676.75	0.0055	P	2.8	2.0
6	<input type="checkbox"/>	1.000	1.077	11896.26	0.0117	P	2.2	7.7
7	<input type="checkbox"/>	10.000	10.314	116639.30	0.1116	P	1.4	3.1
8	<input type="checkbox"/>	50.000	49.720	565625.30	0.5377	P	0.7	-0.6
9	<input type="checkbox"/>	100.000	100.108	1122049.07	1.0827	P	1.8	0.1
10	<input type="checkbox"/>			85.55	0.0001	P	13.0	
11	<input type="checkbox"/>			23.33	0.0000	P	39.0	

$$y = 0.0108 * x + 1.3599E-005$$

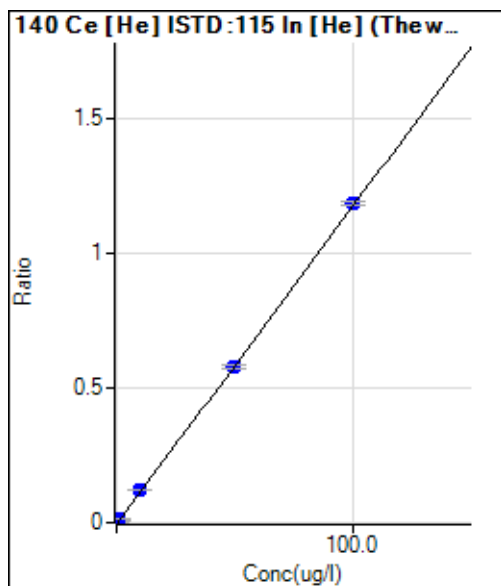
$$R = 1.0000$$

$$DL = 0.000485 \text{ ug/l}$$

$$BEC = 0.001257 \text{ ug/l}$$

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	7.78	0.0000	P	23.2	
2	<input type="checkbox"/>	0.025	0.023	288.89	0.0003	P	5.7	-8.6
3	<input type="checkbox"/>	0.050	0.054	667.80	0.0006	P	3.4	8.8
4	<input type="checkbox"/>	0.100	0.109	1342.30	0.0013	P	1.7	9.2
5	<input type="checkbox"/>	0.500	0.522	6329.26	0.0062	P	2.4	4.3
6	<input type="checkbox"/>	1.000	1.066	12840.45	0.0126	P	2.2	6.6
7	<input type="checkbox"/>	10.000	10.414	128496.21	0.1229	P	0.7	4.1
8	<input type="checkbox"/>	50.000	48.997	608057.19	0.5782	P	2.6	-2.0
9	<input type="checkbox"/>	100.000	100.459	1228729.96	1.1855	P	0.6	0.5
10	<input type="checkbox"/>			256.67	0.0003	P	19.5	
11	<input type="checkbox"/>			28.89	0.0000	P	25.8	

$$y = 0.0118 * x + 7.3125E-006$$

$$R = 0.9999$$

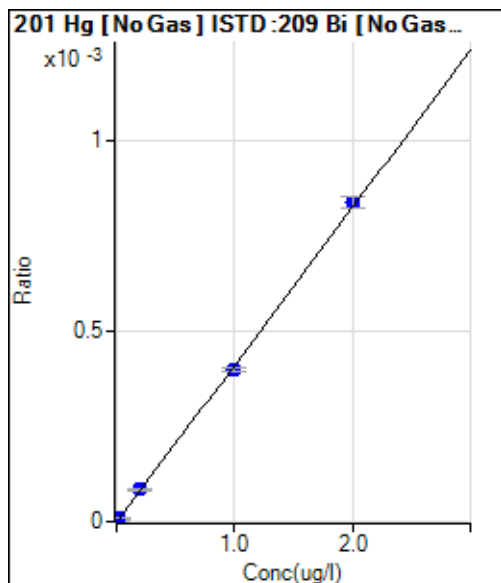
$$DL = 0.0004318 \text{ ug/l}$$

$$BEC = 0.0006197 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	12.00	0.0000	P	43.0	
2	<input type="checkbox"/>			13.00	0.0000	P	27.0	
3	<input type="checkbox"/>	0.001	-0.001	10.67	0.0000	P	31.8	-175.3
4	<input type="checkbox"/>	0.002	0.002	14.00	0.0000	P	14.5	-23.2
5	<input type="checkbox"/>	0.010	0.010	28.66	0.0000	P	24.5	-4.7
6	<input type="checkbox"/>	0.020	0.015	37.99	0.0000	P	11.5	-25.2
7	<input type="checkbox"/>	0.200	0.197	359.93	0.0001	P	8.4	-1.4
8	<input type="checkbox"/>	1.000	0.961	1666.44	0.0004	P	2.1	-3.9
9	<input type="checkbox"/>	2.000	2.020	3366.09	0.0008	P	3.2	1.0
10	<input type="checkbox"/>			291.04	0.0001	P	152.6	
11	<input type="checkbox"/>			25.99	0.0000	P	17.1	

$$y = 4.1298E-004 * x + 2.7413E-006$$

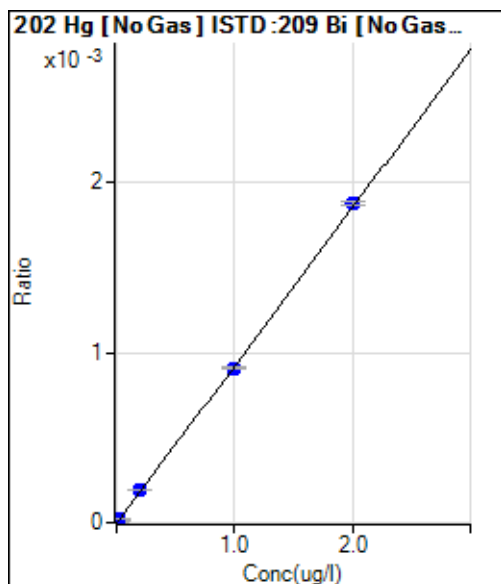
R = 0.9998

DL = 0.008572 ug/l

BEC = 0.006638 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	18.33	0.0000	P	5.9	
2	<input type="checkbox"/>			29.66	0.0000	P	11.2	
3	<input type="checkbox"/>	0.001	0.005	38.66	0.0000	P	9.3	397.1
4	<input type="checkbox"/>	0.002	0.004	32.32	0.0000	P	14.2	92.4
5	<input type="checkbox"/>	0.010	0.014	71.66	0.0000	P	9.5	35.4
6	<input type="checkbox"/>	0.020	0.023	107.31	0.0000	P	5.7	13.0
7	<input type="checkbox"/>	0.200	0.198	805.53	0.0002	P	1.7	-0.9
8	<input type="checkbox"/>	1.000	0.970	3776.12	0.0009	P	1.6	-3.0
9	<input type="checkbox"/>	2.000	2.015	7548.29	0.0019	P	1.3	0.7
10	<input type="checkbox"/>			85.98	0.0000	P	5.3	
11	<input type="checkbox"/>			64.65	0.0000	P	18.2	

$$y = 9.2906E-004 * x + 4.1923E-006$$

R = 0.9998

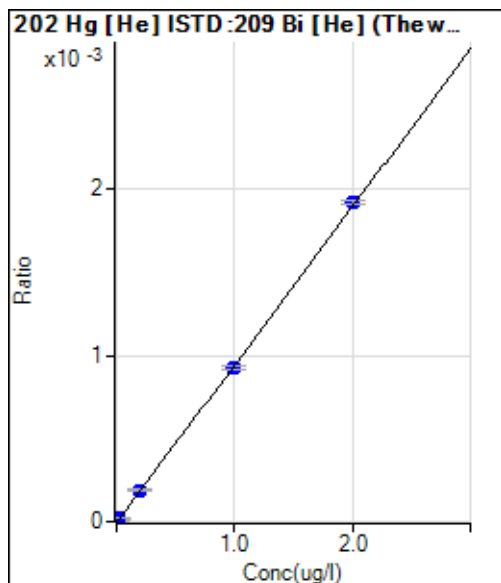
DL = 0.0007998 ug/l

BEC = 0.004512 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8.00	0.0000	P	76.4	
2	<input type="checkbox"/>			11.67	0.0000	P	21.8	
3	<input type="checkbox"/>	0.001	0.001	10.67	0.0000	P	44.1	36.6
4	<input type="checkbox"/>	0.002	0.002	12.00	0.0000	P	29.0	10.7
5	<input type="checkbox"/>	0.010	0.009	24.99	0.0000	P	12.2	-7.3
6	<input type="checkbox"/>	0.020	0.020	44.99	0.0000	P	7.5	-1.4
7	<input type="checkbox"/>	0.200	0.194	369.93	0.0002	P	3.9	-3.1
8	<input type="checkbox"/>	1.000	0.971	1760.43	0.0009	P	3.4	-2.9
9	<input type="checkbox"/>	2.000	2.015	3567.43	0.0019	P	1.5	0.8
10	<input type="checkbox"/>			31.32	0.0000	P	3.8	
11	<input type="checkbox"/>			27.66	0.0000	P	8.7	

$y = 9.5262E-004 * x + 3.9954E-006$

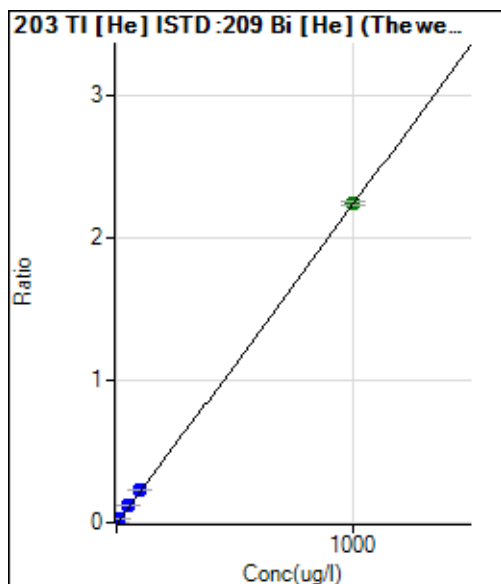
R = 0.9999

DL = 0.009617 ug/l

BEC = 0.004194 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	326.14	0.0002	P	6.3	
2	<input type="checkbox"/>	0.025	0.007	364.82	0.0002	P	3.3	-73.1
3	<input type="checkbox"/>	0.050	0.039	502.21	0.0002	P	9.2	-22.6
4	<input type="checkbox"/>	0.100	0.127	879.71	0.0004	P	4.4	26.8
5	<input type="checkbox"/>	0.500	0.515	2571.95	0.0013	P	3.2	2.9
6	<input type="checkbox"/>	1.000	1.015	4825.49	0.0024	P	1.6	1.5
7	<input type="checkbox"/>	10.000	9.928	44023.16	0.0225	P	2.3	-0.7
8	<input type="checkbox"/>	50.000	54.389	231941.33	0.1223	P	0.8	8.8
9	<input type="checkbox"/>	100.000	101.737	424066.59	0.2287	P	0.4	1.7
10	<input type="checkbox"/>	1000.000	999.608	3950420.74	2.2456	A	0.6	0.0
11	<input type="checkbox"/>			1329.94	0.0007	P	3.0	

$y = 0.0022 * x + 1.6258E-004$

R = 1.0000

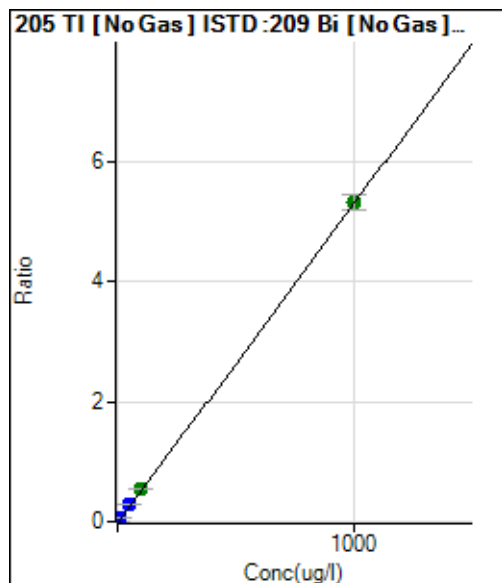
DL = 0.0137 ug/l

BEC = 0.07238 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1473.43	0.0003	P	9.6	
2	<input type="checkbox"/>	0.025	0.019	1925.71	0.0004	P	9.7	-23.1
3	<input type="checkbox"/>	0.050	0.046	2551.37	0.0006	P	1.3	-7.7
4	<input type="checkbox"/>	0.100	0.132	4319.61	0.0010	P	2.2	32.0
5	<input type="checkbox"/>	0.500	0.499	12796.20	0.0030	P	0.5	-0.2
6	<input type="checkbox"/>	1.000	1.000	24112.95	0.0057	P	1.1	0.0
7	<input type="checkbox"/>	10.000	9.937	227564.44	0.0532	P	0.3	-0.6
8	<input type="checkbox"/>	50.000	53.206	1181709.36	0.2834	P	0.9	6.4
9	<input type="checkbox"/>	100.000	101.023	2163444.31	0.5377	A	1.2	1.0
10	<input type="checkbox"/>	1000.000	999.738	21017664.83	5.3185	A	4.4	0.0
11	<input type="checkbox"/>			7625.56	0.0018	P	2.6	

$$y = 0.0053 * x + 3.3707E-004$$

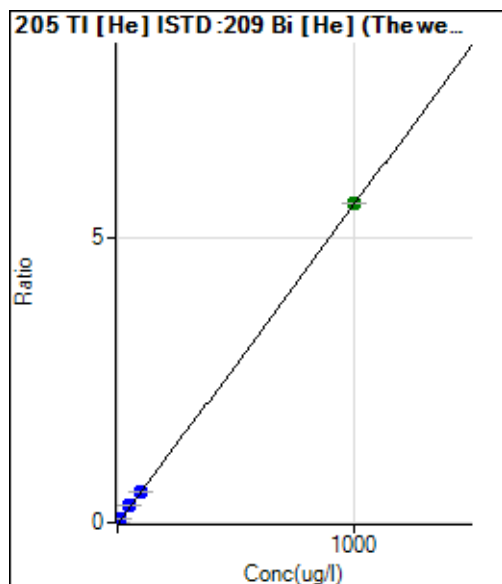
$$R = 1.0000$$

$$DL = 0.01831 \text{ ug/l}$$

$$BEC = 0.06336 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	740.99	0.0004	P	4.0	
2	<input type="checkbox"/>	0.025	0.020	985.10	0.0005	P	5.4	-20.9
3	<input type="checkbox"/>	0.050	0.041	1199.87	0.0006	P	6.0	-18.9
4	<input type="checkbox"/>	0.100	0.129	2143.70	0.0011	P	0.3	29.0
5	<input type="checkbox"/>	0.500	0.486	6019.79	0.0031	P	3.8	-2.8
6	<input type="checkbox"/>	1.000	0.984	11586.35	0.0059	P	1.7	-1.6
7	<input type="checkbox"/>	10.000	9.705	107008.81	0.0546	P	3.6	-3.0
8	<input type="checkbox"/>	50.000	52.534	557348.80	0.2940	P	1.1	5.1
9	<input type="checkbox"/>	100.000	97.511	1011213.66	0.5453	P	0.8	-2.5
10	<input type="checkbox"/>	1000.000	1000.125	9833765.03	5.5898	A	0.4	0.0
11	<input type="checkbox"/>			3023.56	0.0016	P	6.8	

$$y = 0.0056 * x + 3.6929E-004$$

$$R = 1.0000$$

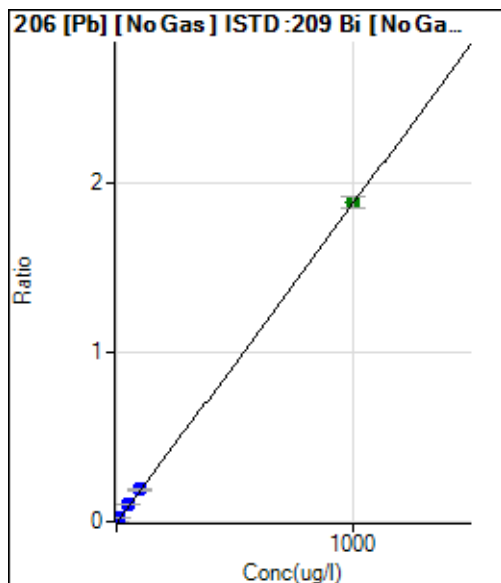
$$DL = 0.007847 \text{ ug/l}$$

$$BEC = 0.06608 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	3572.73	0.0008	P	0.5	
2	<input type="checkbox"/>	0.025	-0.007	3521.60	0.0008	P	3.7	-129.7
3	<input type="checkbox"/>	0.050	0.007	3636.07	0.0008	P	2.4	-86.1
4	<input type="checkbox"/>	0.100	0.102	4191.80	0.0010	P	6.1	2.0
5	<input type="checkbox"/>	0.500	0.438	7031.90	0.0016	P	2.6	-12.3
6	<input type="checkbox"/>	1.000	0.953	11140.28	0.0026	P	1.2	-4.7
7	<input type="checkbox"/>	10.000	9.677	81558.15	0.0191	P	2.8	-3.2
8	<input type="checkbox"/>	50.000	52.405	415504.87	0.0997	P	0.8	4.8
9	<input type="checkbox"/>	100.000	99.551	758699.89	0.1886	P	2.1	-0.4
10	<input type="checkbox"/>	1000.000	999.928	7458080.86	1.8867	A	3.1	0.0
11	<input type="checkbox"/>			3902.82	0.0009	P	3.6	

$$y = 0.0019 * x + 8.1712E-004$$

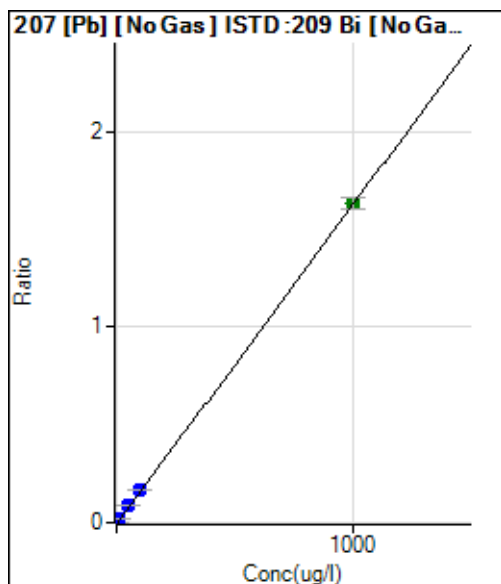
$$R = 1.0000$$

$$DL = 0.006932 \text{ ug/l}$$

$$BEC = 0.4333 \text{ ug/l}$$

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	2870.32	0.0007	P	5.4	
2	<input type="checkbox"/>	0.025	-0.005	2845.88	0.0006	P	2.6	-118.3
3	<input type="checkbox"/>	0.050	0.015	2983.69	0.0007	P	1.6	-70.1
4	<input type="checkbox"/>	0.100	0.103	3431.58	0.0008	P	2.3	3.2
5	<input type="checkbox"/>	0.500	0.491	6240.39	0.0015	P	0.6	-1.8
6	<input type="checkbox"/>	1.000	0.970	9545.70	0.0022	P	0.9	-3.0
7	<input type="checkbox"/>	10.000	9.648	70239.89	0.0164	P	0.4	-3.5
8	<input type="checkbox"/>	50.000	52.034	357120.80	0.0857	P	1.6	4.1
9	<input type="checkbox"/>	100.000	100.146	661030.41	0.1643	P	1.0	0.1
10	<input type="checkbox"/>	1000.000	999.887	6458825.94	1.6342	A	3.6	0.0
11	<input type="checkbox"/>			3201.51	0.0008	P	3.6	

$$y = 0.0016 * x + 6.5649E-004$$

$$R = 1.0000$$

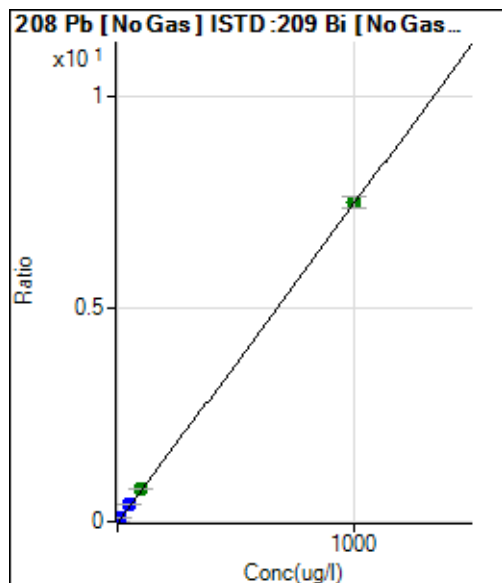
$$DL = 0.06531 \text{ ug/l}$$

$$BEC = 0.4018 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 020_CCV.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	13490.52	0.0031	P	1.0	
2	<input type="checkbox"/>	0.025	-0.001	13498.32	0.0031	P	0.1	-103.8
3	<input type="checkbox"/>	0.050	0.021	14197.52	0.0032	P	1.9	-58.4
4	<input type="checkbox"/>	0.100	0.114	16369.64	0.0039	P	1.0	13.8
5	<input type="checkbox"/>	0.500	0.475	28431.00	0.0066	P	0.8	-5.0
6	<input type="checkbox"/>	1.000	0.969	44089.91	0.0103	P	0.4	-3.1
7	<input type="checkbox"/>	10.000	9.661	322870.79	0.0755	P	1.3	-3.4
8	<input type="checkbox"/>	50.000	52.880	1664798.56	0.3993	P	1.6	5.8
9	<input type="checkbox"/>	100.000	99.435	3010323.81	0.7482	A	0.8	-0.6
10	<input type="checkbox"/>	1000.000	999.916	29625508.38	7.4960	A	3.9	0.0
11	<input type="checkbox"/>			15008.95	0.0036	P	3.5	

$$y = 0.0075 * x + 0.0031$$

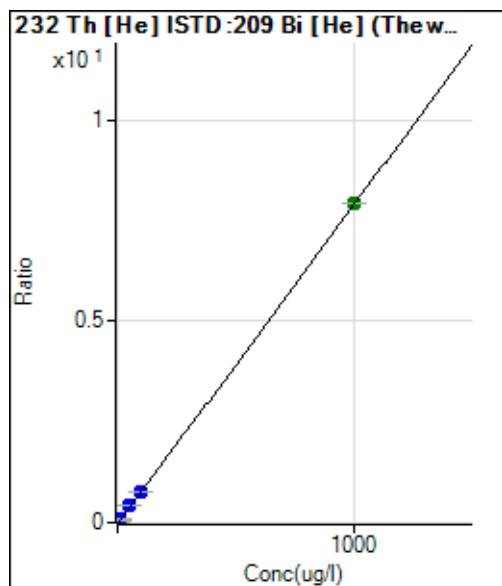
$$R = 1.0000$$

$$DL = 0.01221 \text{ ug/l}$$

$$BEC = 0.4117 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	129.39	0.0001	P	11.3	
2	<input type="checkbox"/>	0.025	0.012	326.14	0.0002	P	3.8	-52.4
3	<input type="checkbox"/>	0.050	0.023	496.88	0.0002	P	0.5	-54.0
4	<input type="checkbox"/>	0.100	0.053	949.09	0.0005	P	5.3	-47.2
5	<input type="checkbox"/>	0.500	0.306	4862.19	0.0025	P	4.0	-38.7
6	<input type="checkbox"/>	1.000	0.730	11553.07	0.0058	P	3.8	-27.0
7	<input type="checkbox"/>	10.000	9.127	141908.74	0.0724	P	3.7	-8.7
8	<input type="checkbox"/>	50.000	51.838	779229.34	0.4110	P	0.9	3.7
9	<input type="checkbox"/>	100.000	97.701	1436300.99	0.7746	P	0.3	-2.3
10	<input type="checkbox"/>	1000.000	1000.147	13948541.76	7.9286	A	0.6	0.0
11	<input type="checkbox"/>			9982.51	0.0054	P	9.3	

$$y = 0.0079 * x + 6.4508E-005$$

$$R = 1.0000$$

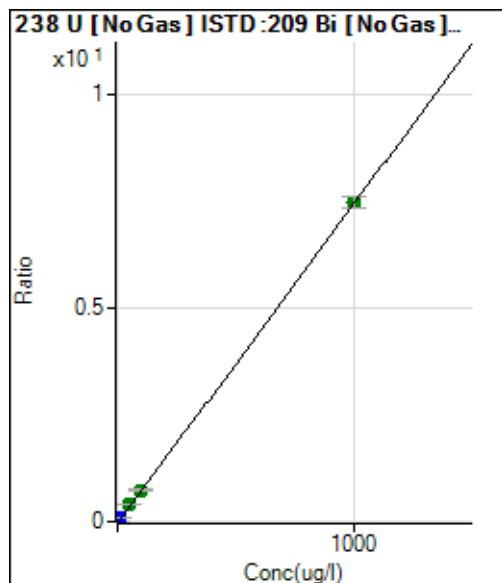
$$DL = 0.002768 \text{ ug/l}$$

$$BEC = 0.008137 \text{ ug/l}$$

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

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

Calibration for 020_CCV.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	34.32	0.0000	P	2.1	
2	<input type="checkbox"/>	0.025	0.023	796.87	0.0002	P	1.3	-6.9
3	<input type="checkbox"/>	0.050	0.050	1673.44	0.0004	P	1.1	0.2
4	<input type="checkbox"/>	0.100	0.105	3307.43	0.0008	P	4.5	5.5
5	<input type="checkbox"/>	0.500	0.471	15080.00	0.0035	P	1.8	-5.8
6	<input type="checkbox"/>	1.000	0.971	30948.60	0.0073	P	0.5	-2.9
7	<input type="checkbox"/>	10.000	9.577	306109.44	0.0716	P	1.2	-4.2
8	<input type="checkbox"/>	50.000	52.076	1622054.91	0.3891	A	1.1	4.2
9	<input type="checkbox"/>	100.000	99.202	2981955.93	0.7411	A	0.8	-0.8
10	<input type="checkbox"/>	1000.000	999.980	29527236.57	7.4709	A	3.6	0.0
11	<input type="checkbox"/>			1800.77	0.0004	P	10.2	

$$y = 0.0075 * x + 7.8505E-006$$

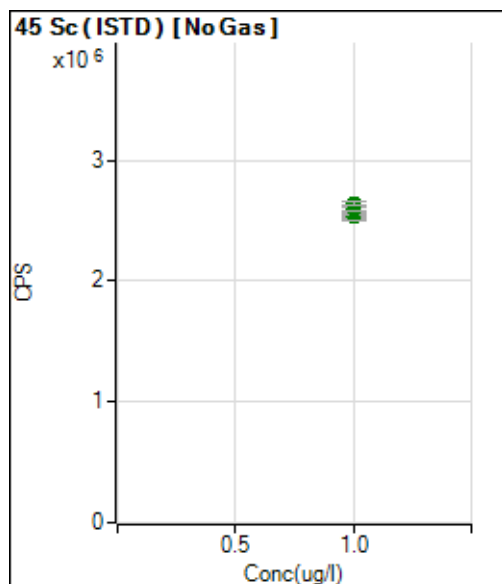
$$R = 1.0000$$

$$DL = 6.647E-05 \text{ ug/l}$$

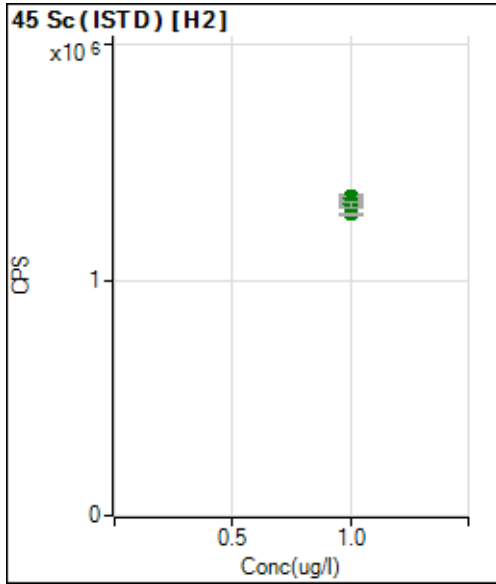
$$BEC = 0.001051 \text{ ug/l}$$

Weight: 1/y

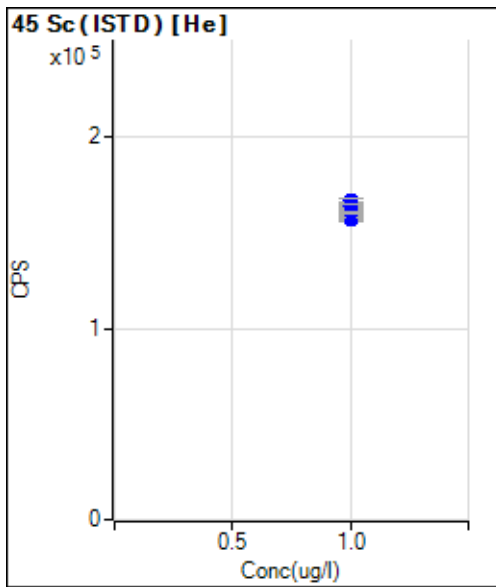
Min Conc: <None>



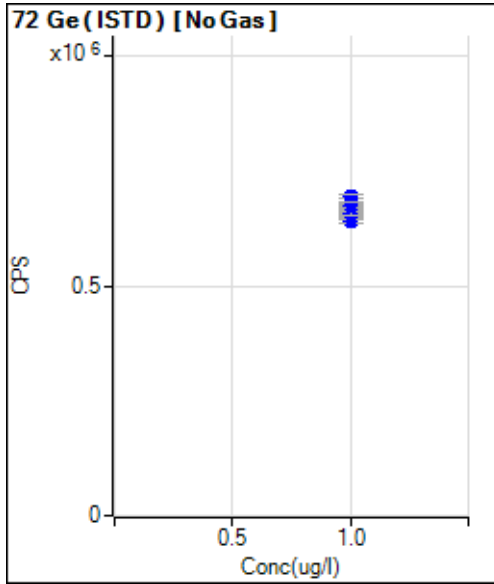
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2558831.75		A	0.9	
2	<input type="checkbox"/>	1.000		2553537.16		A	1.3	
3	<input type="checkbox"/>	1.000		2580386.85		A	2.5	
4	<input type="checkbox"/>	1.000		2530517.05		A	1.5	
5	<input type="checkbox"/>	1.000		2534929.43		A	2.3	
6	<input type="checkbox"/>	1.000		2569067.19		A	0.9	
7	<input type="checkbox"/>	1.000		2609157.43		A	1.9	
8	<input type="checkbox"/>	1.000		2577121.86		A	0.7	
9	<input type="checkbox"/>	1.000		2560252.92		A	0.8	
10	<input type="checkbox"/>	1.000		2591330.09		A	1.1	
11	<input type="checkbox"/>	1.000		2643451.71		A	1.4	



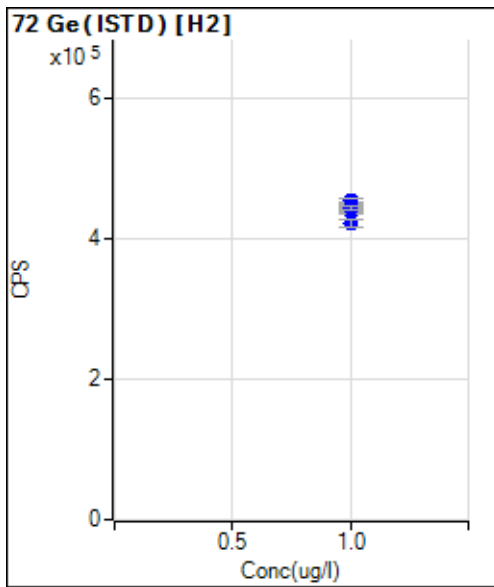
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1355955.76		A	0.8	
2	<input type="checkbox"/>	1.000		1350950.13		A	2.0	
3	<input type="checkbox"/>	1.000		1329647.93		A	1.7	
4	<input type="checkbox"/>	1.000		1346130.34		A	1.1	
5	<input type="checkbox"/>	1.000		1338190.24		A	0.2	
6	<input type="checkbox"/>	1.000		1350939.28		A	0.7	
7	<input type="checkbox"/>	1.000		1346390.22		A	1.7	
8	<input type="checkbox"/>	1.000		1329205.87		A	1.1	
9	<input type="checkbox"/>	1.000		1323377.40		A	1.0	
10	<input type="checkbox"/>	1.000		1280702.94		A	0.8	
11	<input type="checkbox"/>	1.000		1319931.64		A	1.4	



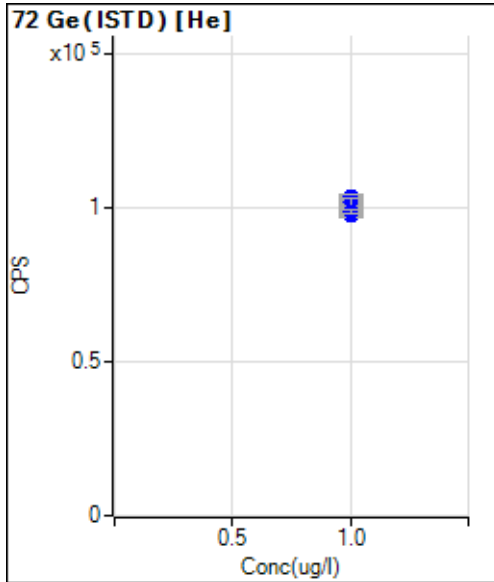
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		159545.83		P	0.9	
2	<input type="checkbox"/>	1.000		160010.03		P	0.8	
3	<input type="checkbox"/>	1.000		157074.32		P	1.2	
4	<input type="checkbox"/>	1.000		158100.78		P	1.4	
5	<input type="checkbox"/>	1.000		157992.46		P	0.5	
6	<input type="checkbox"/>	1.000		158327.20		P	0.2	
7	<input type="checkbox"/>	1.000		162428.09		P	1.1	
8	<input type="checkbox"/>	1.000		164767.70		P	0.8	
9	<input type="checkbox"/>	1.000		167143.82		P	0.9	
10	<input type="checkbox"/>	1.000		163774.93		P	1.5	
11	<input type="checkbox"/>	1.000		160647.00		P	1.0	



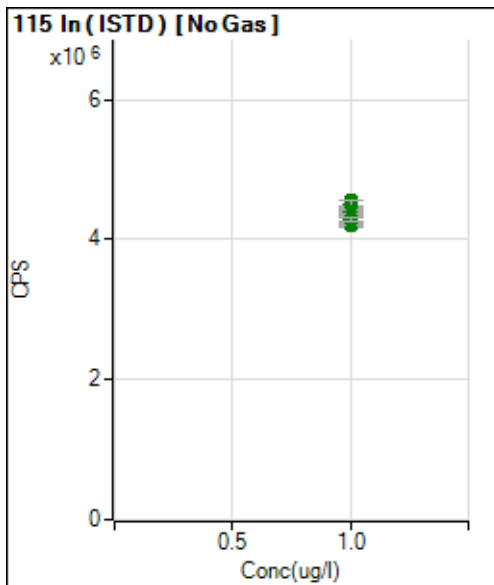
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		669899.96		P	1.6	
2	<input type="checkbox"/>	1.000		657500.64		P	1.4	
3	<input type="checkbox"/>	1.000		652958.63		P	1.8	
4	<input type="checkbox"/>	1.000		640235.92		P	0.7	
5	<input type="checkbox"/>	1.000		646568.72		P	0.5	
6	<input type="checkbox"/>	1.000		656556.71		P	2.4	
7	<input type="checkbox"/>	1.000		657041.71		P	0.7	
8	<input type="checkbox"/>	1.000		672972.08		P	0.4	
9	<input type="checkbox"/>	1.000		694595.90		P	1.1	
10	<input type="checkbox"/>	1.000		674009.36		P	1.0	
11	<input type="checkbox"/>	1.000		682110.45		P	0.5	



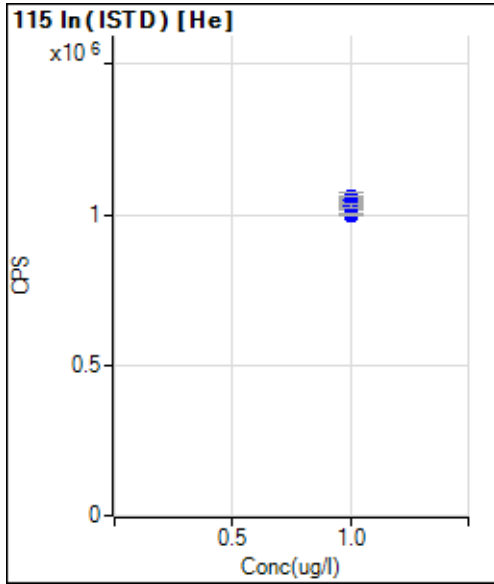
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		455516.48		P	1.2	
2	<input type="checkbox"/>	1.000		446126.54		P	1.7	
3	<input type="checkbox"/>	1.000		448052.44		P	1.6	
4	<input type="checkbox"/>	1.000		438576.69		P	0.5	
5	<input type="checkbox"/>	1.000		441891.98		P	0.9	
6	<input type="checkbox"/>	1.000		445798.48		P	0.8	
7	<input type="checkbox"/>	1.000		442673.43		P	2.4	
8	<input type="checkbox"/>	1.000		447986.64		P	0.5	
9	<input type="checkbox"/>	1.000		445733.16		P	2.1	
10	<input type="checkbox"/>	1.000		422856.97		P	2.6	
11	<input type="checkbox"/>	1.000		444564.68		P	1.1	



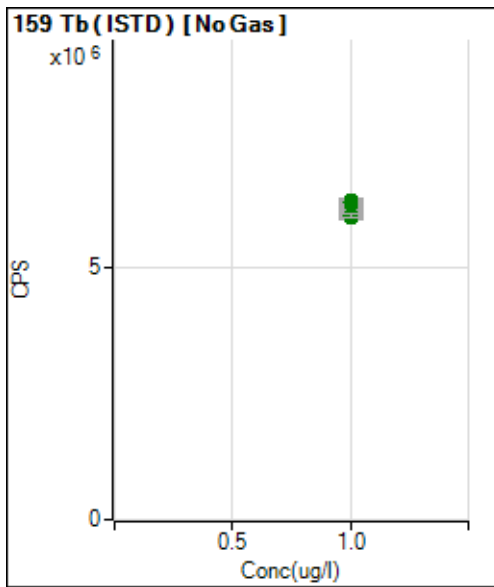
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		101872.99		P	0.8	
2	<input type="checkbox"/>	1.000		99956.23		P	1.3	
3	<input type="checkbox"/>	1.000		98141.51		P	1.5	
4	<input type="checkbox"/>	1.000		98890.10		P	2.2	
5	<input type="checkbox"/>	1.000		99460.76		P	2.2	
6	<input type="checkbox"/>	1.000		97973.82		P	1.6	
7	<input type="checkbox"/>	1.000		99444.46		P	4.1	
8	<input type="checkbox"/>	1.000		103398.21		P	1.1	
9	<input type="checkbox"/>	1.000		103958.29		P	1.7	
10	<input type="checkbox"/>	1.000		101868.21		P	2.3	
11	<input type="checkbox"/>	1.000		99022.61		P	1.4	



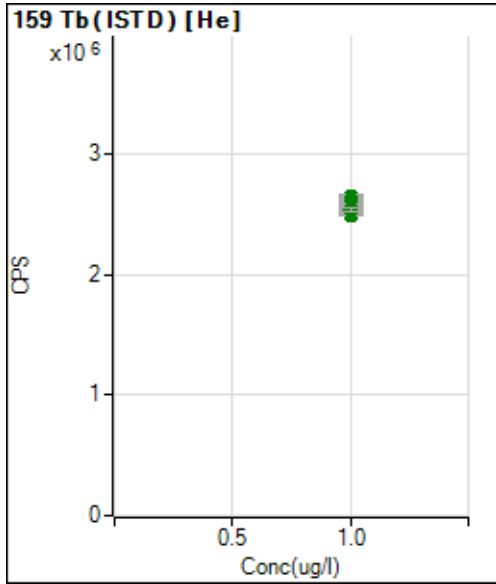
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		4562878.12		A	0.5	
2	<input type="checkbox"/>	1.000		4455284.08		A	0.9	
3	<input type="checkbox"/>	1.000		4513763.10		A	2.5	
4	<input type="checkbox"/>	1.000		4377527.58		A	2.0	
5	<input type="checkbox"/>	1.000		4344725.36		A	2.0	
6	<input type="checkbox"/>	1.000		4367305.12		A	1.1	
7	<input type="checkbox"/>	1.000		4405767.82		A	1.2	
8	<input type="checkbox"/>	1.000		4354312.03		A	0.9	
9	<input type="checkbox"/>	1.000		4207998.44		A	1.0	
10	<input type="checkbox"/>	1.000		4205449.00		A	0.6	
11	<input type="checkbox"/>	1.000		4299462.69		A	1.4	



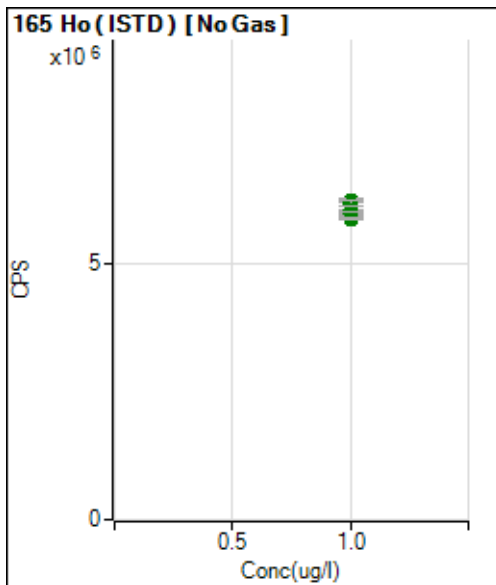
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1061806.25		P	2.0	
2	<input type="checkbox"/>	1.000		1043228.63		P	0.6	
3	<input type="checkbox"/>	1.000		1028576.57		P	1.4	
4	<input type="checkbox"/>	1.000		1036119.03		P	0.5	
5	<input type="checkbox"/>	1.000		1026912.13		P	0.4	
6	<input type="checkbox"/>	1.000		1020036.75		P	0.7	
7	<input type="checkbox"/>	1.000		1045580.07		P	2.0	
8	<input type="checkbox"/>	1.000		1051954.25		P	1.9	
9	<input type="checkbox"/>	1.000		1036491.47		P	1.2	
10	<input type="checkbox"/>	1.000		999314.09		P	0.9	
11	<input type="checkbox"/>	1.000		1028789.03		P	1.1	



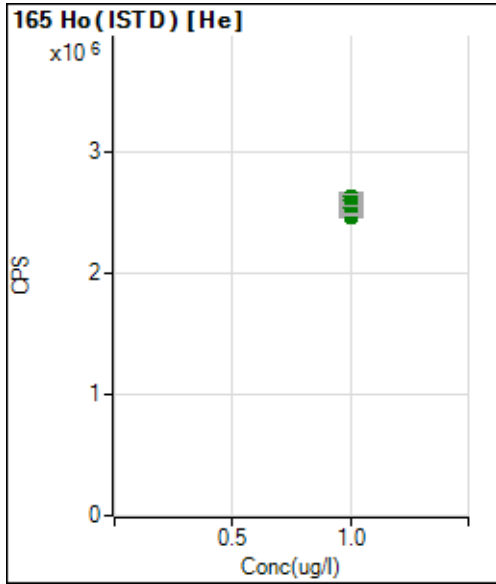
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6343583.93		A	1.0	
2	<input type="checkbox"/>	1.000		6297828.02		A	1.8	
3	<input type="checkbox"/>	1.000		6266774.47		A	0.6	
4	<input type="checkbox"/>	1.000		6141317.77		A	4.6	
5	<input type="checkbox"/>	1.000		6202622.92		A	0.8	
6	<input type="checkbox"/>	1.000		6059665.03		A	3.3	
7	<input type="checkbox"/>	1.000		6138659.95		A	1.1	
8	<input type="checkbox"/>	1.000		6145638.24		A	1.7	
9	<input type="checkbox"/>	1.000		6132636.80		A	1.2	
10	<input type="checkbox"/>	1.000		6006902.37		A	0.7	
11	<input type="checkbox"/>	1.000		6023644.42		A	1.3	



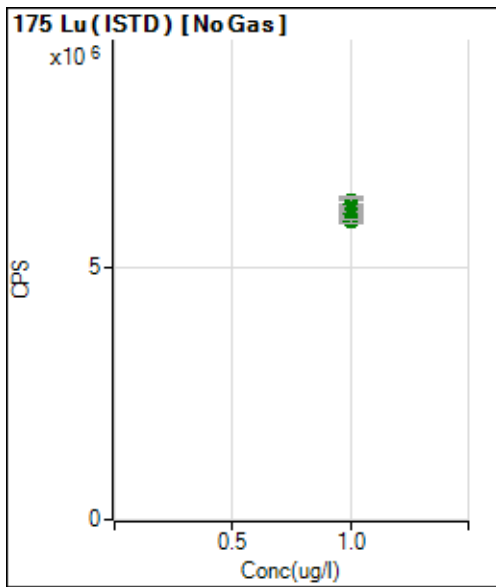
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2651003.15		A	1.0	
2	<input type="checkbox"/>	1.000		2619524.77		A	2.2	
3	<input type="checkbox"/>	1.000		2615113.64		A	0.7	
4	<input type="checkbox"/>	1.000		2589480.01		A	0.5	
5	<input type="checkbox"/>	1.000		2552567.87		A	1.8	
6	<input type="checkbox"/>	1.000		2598911.63		A	1.9	
7	<input type="checkbox"/>	1.000		2585143.02		A	1.6	
8	<input type="checkbox"/>	1.000		2574601.47		A	0.6	
9	<input type="checkbox"/>	1.000		2523890.13		A	0.8	
10	<input type="checkbox"/>	1.000		2497404.16		A	1.1	
11	<input type="checkbox"/>	1.000		2535692.06		A	1.0	



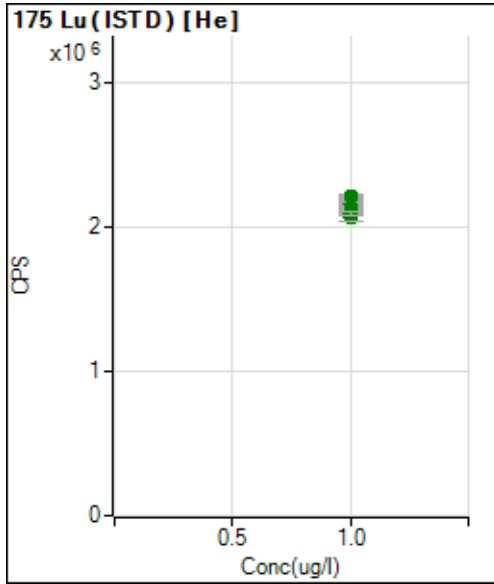
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6253758.17		A	1.1	
2	<input type="checkbox"/>	1.000		6214902.39		A	1.9	
3	<input type="checkbox"/>	1.000		6195920.39		A	1.3	
4	<input type="checkbox"/>	1.000		5981642.79		A	3.0	
5	<input type="checkbox"/>	1.000		6077728.51		A	2.0	
6	<input type="checkbox"/>	1.000		6067534.98		A	2.6	
7	<input type="checkbox"/>	1.000		5977940.18		A	0.6	
8	<input type="checkbox"/>	1.000		5989062.24		A	1.2	
9	<input type="checkbox"/>	1.000		5996043.28		A	1.6	
10	<input type="checkbox"/>	1.000		5880050.78		A	0.5	
11	<input type="checkbox"/>	1.000		5891357.82		A	0.6	



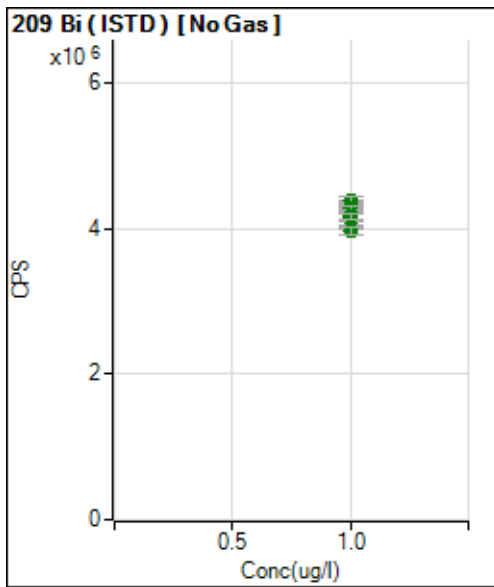
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2640575.09		A	2.6	
2	<input type="checkbox"/>	1.000		2604804.82		A	2.6	
3	<input type="checkbox"/>	1.000		2641381.31		A	0.9	
4	<input type="checkbox"/>	1.000		2586704.40		A	0.9	
5	<input type="checkbox"/>	1.000		2555351.72		A	1.2	
6	<input type="checkbox"/>	1.000		2569843.19		A	0.3	
7	<input type="checkbox"/>	1.000		2547827.61		A	0.7	
8	<input type="checkbox"/>	1.000		2547753.73		A	0.9	
9	<input type="checkbox"/>	1.000		2501047.10		A	1.2	
10	<input type="checkbox"/>	1.000		2467941.58		A	0.8	
11	<input type="checkbox"/>	1.000		2493698.14		A	0.4	



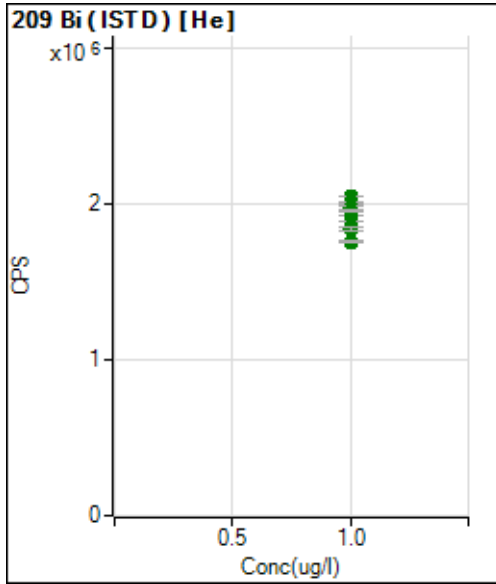
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6342212.09		A	2.3	
2	<input type="checkbox"/>	1.000		6209513.83		A	3.8	
3	<input type="checkbox"/>	1.000		6263492.75		A	3.4	
4	<input type="checkbox"/>	1.000		6030225.27		A	3.3	
5	<input type="checkbox"/>	1.000		6128424.67		A	1.2	
6	<input type="checkbox"/>	1.000		6092256.11		A	3.2	
7	<input type="checkbox"/>	1.000		6197723.18		A	0.8	
8	<input type="checkbox"/>	1.000		6100725.98		A	1.4	
9	<input type="checkbox"/>	1.000		6085853.71		A	1.1	
10	<input type="checkbox"/>	1.000		5979642.82		A	1.0	
11	<input type="checkbox"/>	1.000		5929760.07		A	1.7	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2214034.53		A	1.0	
2	<input type="checkbox"/>	1.000		2207166.60		A	0.8	
3	<input type="checkbox"/>	1.000		2187330.98		A	1.1	
4	<input type="checkbox"/>	1.000		2154138.15		A	0.5	
5	<input type="checkbox"/>	1.000		2169675.02		A	1.4	
6	<input type="checkbox"/>	1.000		2174662.27		A	0.8	
7	<input type="checkbox"/>	1.000		2158273.43		A	1.7	
8	<input type="checkbox"/>	1.000		2128123.54		A	0.7	
9	<input type="checkbox"/>	1.000		2116417.10		A	0.2	
10	<input type="checkbox"/>	1.000		2069014.62		A	2.8	
11	<input type="checkbox"/>	1.000		2095285.34		A	1.1	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		4372384.71		A	0.5	
2	<input type="checkbox"/>	1.000		4384857.63		A	0.6	
3	<input type="checkbox"/>	1.000		4381128.91		A	2.4	
4	<input type="checkbox"/>	1.000		4157003.86		A	2.7	
5	<input type="checkbox"/>	1.000		4278752.79		A	2.4	
6	<input type="checkbox"/>	1.000		4260652.15		A	1.1	
7	<input type="checkbox"/>	1.000		4278060.12		A	1.6	
8	<input type="checkbox"/>	1.000		4169710.99		A	2.0	
9	<input type="checkbox"/>	1.000		4023742.27		A	1.5	
10	<input type="checkbox"/>	1.000		3954790.13		A	2.6	
11	<input type="checkbox"/>	1.000		4166645.55		A	1.6	

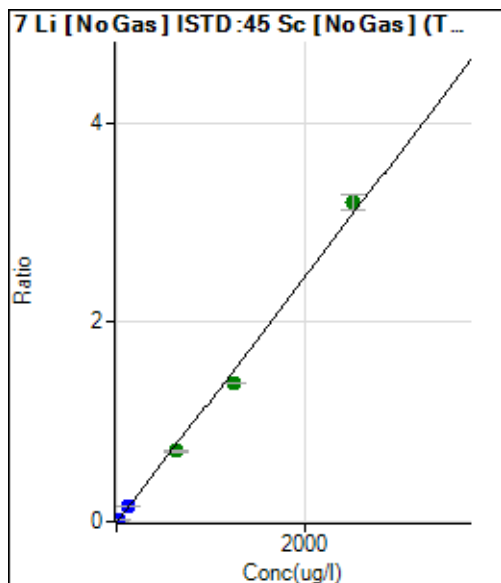


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2006463.42		A	0.5	
2	<input type="checkbox"/>	1.000		2053210.82		A	0.4	
3	<input type="checkbox"/>	1.000		2013224.52		A	0.3	
4	<input type="checkbox"/>	1.000		1966116.14		A	0.1	
5	<input type="checkbox"/>	1.000		1951257.04		A	1.8	
6	<input type="checkbox"/>	1.000		1975278.92		A	1.4	
7	<input type="checkbox"/>	1.000		1960043.69		A	1.0	
8	<input type="checkbox"/>	1.000		1895937.40		A	0.1	
9	<input type="checkbox"/>	1.000		1854317.98		A	0.2	
10	<input type="checkbox"/>	1.000		1759268.89		A	0.7	
11	<input type="checkbox"/>	1.000		1844642.47		A	1.2	

Calibration for 114_QC1.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\220131ADoD.b\
 Analysis File: 220131ADoD.batch.bin
 DA Date-Time: 2022-02-01 00:15:02
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	102CALB.d	Cal Blk	2022-01-31 22:55:17
2	103CAL.S.d	0.025 ppb STD	2022-01-31 23:01:43
3	104CAL.S.d	0.05 ppb STD	2022-01-31 23:08:08
4	105CAL.S.d	0.10 ppb STD	2022-01-31 23:14:33
5	106CAL.S.d	0.5 ppb STD	2022-01-31 23:20:57
6	107CAL.S.d	1 ppb STD	2022-01-31 23:27:22
7	108CAL.S.d	10 ppb STD	2022-01-31 23:33:46
8	109CAL.S.d	50 ppb STD	2022-01-31 23:40:10
9	110CAL.S.d	100 ppb STD	2022-01-31 23:46:34
10	111CAL.S.d	1000 ppb STD	2022-01-31 23:52:59
11	112CAL.S.d	100 ppb Br STD	2022-01-31 23:59:23



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8716.00	0.0050	P	3.5	
2	<input type="checkbox"/>	0.313	0.543	9208.48	0.0057	P	1.7	73.8
3	<input type="checkbox"/>	0.625	0.981	9745.03	0.0062	P	2.9	57.0
4	<input type="checkbox"/>	1.250	1.607	10901.61	0.0070	P	6.3	28.5
5	<input type="checkbox"/>	6.250	5.880	19279.97	0.0123	P	2.1	-5.9
6	<input type="checkbox"/>	12.500	13.256	31859.51	0.0214	P	1.8	6.0
7	<input type="checkbox"/>	125.000	117.365	231751.05	0.1503	P	4.1	-6.1
8	<input type="checkbox"/>	625.000	568.132	1082220.09	0.7083	A	4.1	-9.1
9	<input type="checkbox"/>	1250.000	1113.255	2229968.39	1.3831	A	0.2	-10.9
10	<input type="checkbox"/>	2500.000	2582.968	5886850.77	3.2025	A	5.1	3.3
11	<input type="checkbox"/>			19316.68	0.0110	P	4.0	

$$y = 0.0012 * x + 0.0050$$

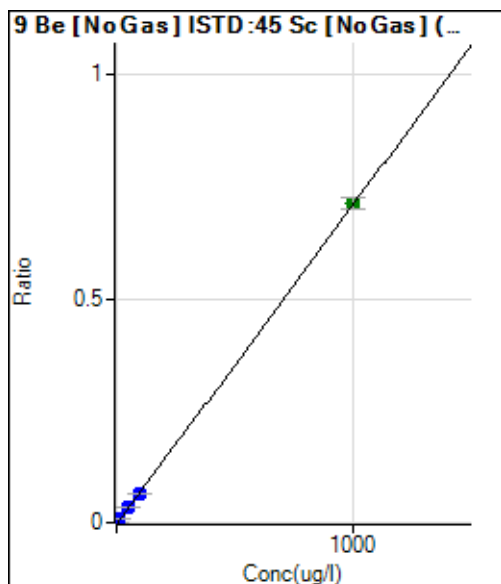
$$R = 0.9979$$

$$DL = 0.4288 \text{ ug/l}$$

$$BEC = 4.058 \text{ ug/l}$$

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	82.31	0.0000	P	3.3	
2	<input type="checkbox"/>	0.025	0.011	88.98	0.0001	P	10.6	-57.3
3	<input type="checkbox"/>	0.050	0.042	120.64	0.0001	P	7.8	-16.5
4	<input type="checkbox"/>	0.100	0.105	189.63	0.0001	P	7.5	4.7
5	<input type="checkbox"/>	0.500	0.471	599.89	0.0004	P	1.8	-5.9
6	<input type="checkbox"/>	1.000	1.003	1133.15	0.0008	P	2.9	0.3
7	<input type="checkbox"/>	10.000	9.478	10483.56	0.0068	P	3.4	-5.2
8	<input type="checkbox"/>	50.000	50.268	54792.93	0.0359	P	3.4	0.5
9	<input type="checkbox"/>	100.000	91.665	105365.71	0.0654	P	0.9	-8.3
10	<input type="checkbox"/>	1000.000	1000.825	1310529.93	0.7131	A	3.4	0.1
11	<input type="checkbox"/>			451.59	0.0003	P	9.5	

$$y = 7.1246E-004 * x + 4.7390E-005$$

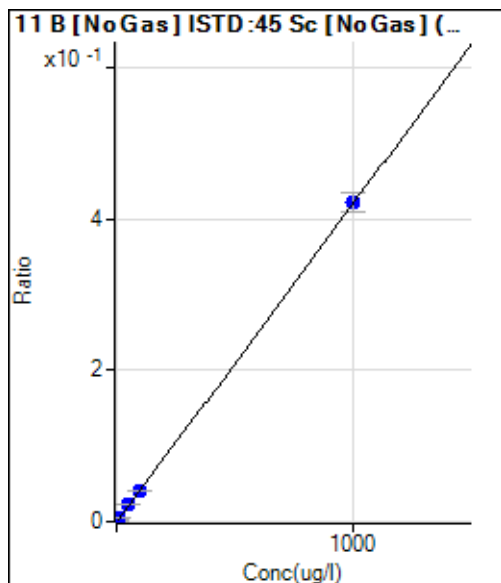
$$R = 1.0000$$

$$DL = 0.006546 \text{ ug/l}$$

$$BEC = 0.06652 \text{ ug/l}$$

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	2239.07	0.0013	P	4.8	
2	<input type="checkbox"/>			2034.29	0.0013	P	6.0	
3	<input type="checkbox"/>	0.050	-0.428	1734.80	0.0011	P	7.8	-956.3
4	<input type="checkbox"/>	0.100	-0.706	1548.70	0.0010	P	3.6	-805.6
5	<input type="checkbox"/>	0.500	-0.481	1707.45	0.0011	P	1.9	-196.3
6	<input type="checkbox"/>	1.000	0.041	1944.24	0.0013	P	2.8	-95.9
7	<input type="checkbox"/>	10.000	8.525	7512.91	0.0049	P	2.0	-14.7
8	<input type="checkbox"/>	50.000	51.181	34834.34	0.0228	P	5.5	2.4
9	<input type="checkbox"/>	100.000	94.882	66347.55	0.0412	P	1.4	-5.1
10	<input type="checkbox"/>	1000.000	1000.469	775322.01	0.4217	P	5.6	0.0
11	<input type="checkbox"/>			12283.27	0.0070	P	4.6	

$y = 4.2025E-004 * x + 0.0013$

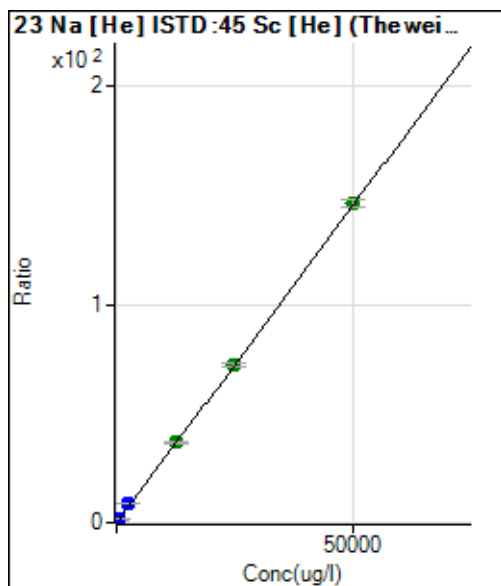
R = 1.0000

DL = 0.4431 ug/l

BEC = 3.072 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	67551.68	0.6307	P	0.8	
2	<input type="checkbox"/>	6.250	12.047	67950.16	0.6657	P	0.9	92.8
3	<input type="checkbox"/>	12.500	14.567	66612.07	0.6731	P	2.1	16.5
4	<input type="checkbox"/>	25.000	23.104	68547.39	0.6979	P	1.9	-7.6
5	<input type="checkbox"/>	125.000	134.828	97691.07	1.0227	P	1.7	7.9
6	<input type="checkbox"/>	250.000	289.034	139246.06	1.4711	P	1.0	15.6
7	<input type="checkbox"/>	2500.000	2720.570	819317.54	8.5405	P	1.8	8.8
8	<input type="checkbox"/>	12500.00	12494.87	3726225.54	36.9585	A	2.5	0.0
9	<input type="checkbox"/>	25000.00	24724.16	8093922.03	72.5140	A	1.9	-1.1
10	<input type="checkbox"/>	50000.00	50127.95	18516319.45	146.373	A	1.9	0.3
11	<input type="checkbox"/>			60382.68	0.5564	P	2.2	

$y = 0.0029 * x + 0.6307$

R = 1.0000

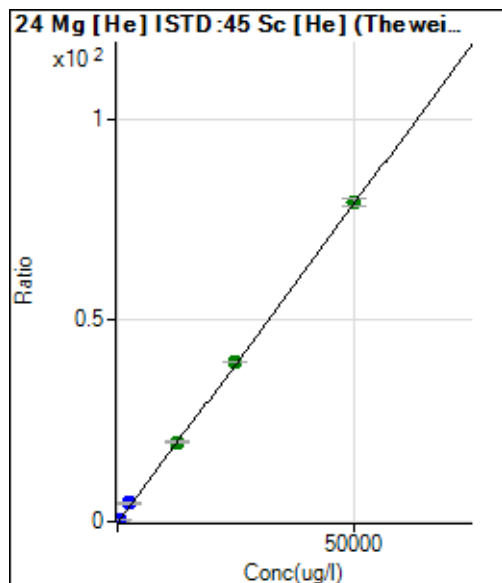
DL = 5.193 ug/l

BEC = 216.9 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	3410.29	0.0318	P	5.6	
2	<input type="checkbox"/>	6.250	6.132	4238.87	0.0415	P	6.7	-1.9
3	<input type="checkbox"/>	12.500	13.306	5237.22	0.0529	P	3.1	6.4
4	<input type="checkbox"/>	25.000	29.628	7739.99	0.0788	P	2.8	18.5
5	<input type="checkbox"/>	125.000	136.661	23731.76	0.2483	P	4.3	9.3
6	<input type="checkbox"/>	250.000	290.008	46493.21	0.4912	P	2.9	16.0
7	<input type="checkbox"/>	2500.000	2854.936	436920.50	4.5539	P	4.1	14.2
8	<input type="checkbox"/>	12500.00	12387.08	1981679.22	19.6522	A	1.7	-0.9
9	<input type="checkbox"/>	25000.00	24959.74	4417201.54	39.5666	A	0.8	-0.2
10	<input type="checkbox"/>	50000.00	50030.37	10028237.43	79.2769	A	2.8	0.1
11	<input type="checkbox"/>			2814.68	0.0259	P	10.6	

$$y = 0.0016 * x + 0.0318$$

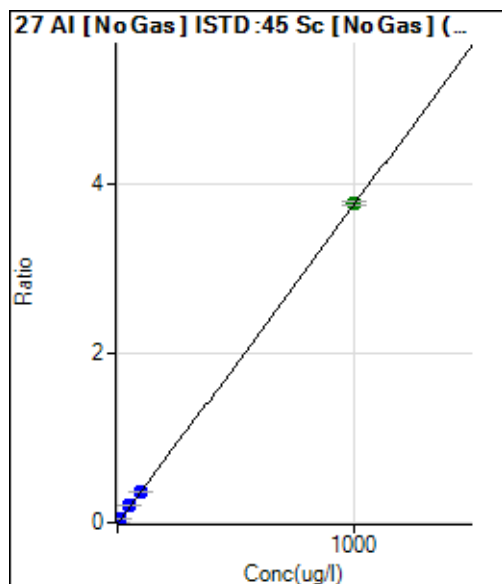
$$R = 1.0000$$

$$DL = 3.36 \text{ ug/l}$$

$$BEC = 20.1 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	11179.77	0.0064	P	3.9	
2	<input type="checkbox"/>			11789.12	0.0073	P	2.5	
3	<input type="checkbox"/>	0.050	0.183	11143.09	0.0071	P	3.3	265.9
4	<input type="checkbox"/>	0.100	0.097	10592.67	0.0068	P	5.2	-2.6
5	<input type="checkbox"/>	0.500	0.361	12227.25	0.0078	P	4.0	-27.9
6	<input type="checkbox"/>	1.000	1.111	15806.17	0.0106	P	4.3	11.1
7	<input type="checkbox"/>	10.000	9.716	66416.27	0.0431	P	1.0	-2.8
8	<input type="checkbox"/>	50.000	50.623	301567.24	0.1974	P	2.7	1.2
9	<input type="checkbox"/>	100.000	96.264	595395.51	0.3695	P	1.9	-3.7
10	<input type="checkbox"/>	1000.000	1000.345	6943337.19	3.7791	A	1.5	0.0
11	<input type="checkbox"/>			11712.42	0.0067	P	4.1	

$$y = 0.0038 * x + 0.0064$$

$$R = 1.0000$$

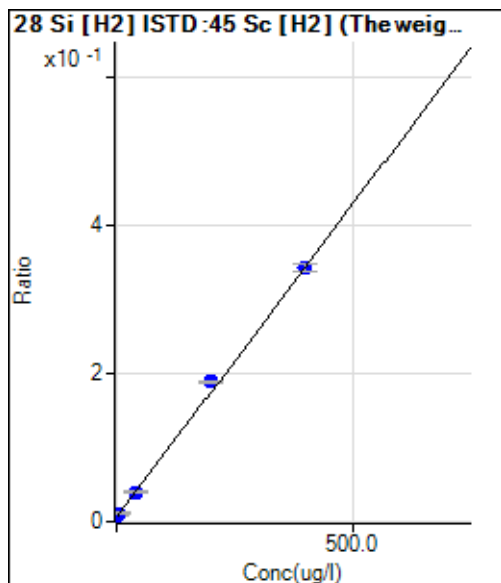
$$DL = 0.1986 \text{ ug/l}$$

$$BEC = 1.709 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8469.14	0.0082	P	0.5	
2	<input type="checkbox"/>			8104.79	0.0079	P	3.7	
3	<input type="checkbox"/>	0.200	-0.554	7621.68	0.0077	P	0.8	-377.2
4	<input type="checkbox"/>	0.400	0.172	8172.78	0.0083	P	17.7	-57.1
5	<input type="checkbox"/>	2.000	0.414	8347.69	0.0085	P	3.7	-79.3
6	<input type="checkbox"/>	4.000	3.419	10815.14	0.0111	P	15.1	-14.5
7	<input type="checkbox"/>	40.000	37.705	39613.46	0.0402	P	1.6	-5.7
8	<input type="checkbox"/>	200.000	212.824	191092.78	0.1890	P	1.7	6.4
9	<input type="checkbox"/>	400.000	393.832	363809.54	0.3428	P	2.6	-1.5
10	<input type="checkbox"/>			8096.78	0.0071	P	0.8	
11	<input type="checkbox"/>			9426.76	0.0087	P	2.8	

$y = 8.4964E-004 * x + 0.0082$

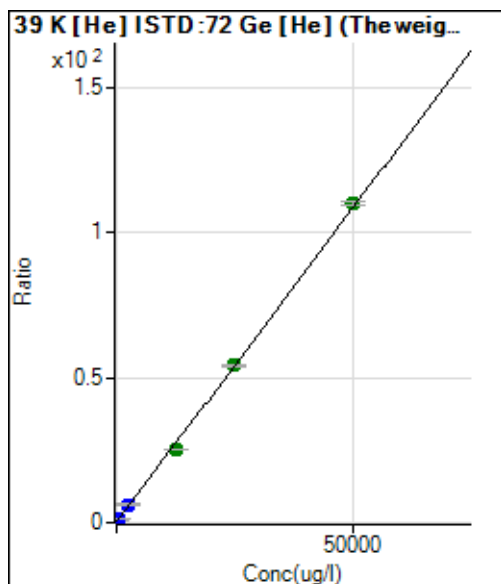
$R = 0.9993$

DL = 0.143 ug/l

BEC = 9.644 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	64467.93	0.8323	P	2.4	
2	<input type="checkbox"/>	6.250	4.531	63645.58	0.8421	P	1.0	-27.5
3	<input type="checkbox"/>	12.500	-8.921	61331.56	0.8130	P	1.8	-171.4
4	<input type="checkbox"/>	25.000	9.445	63211.37	0.8527	P	2.4	-62.2
5	<input type="checkbox"/>	125.000	103.862	77188.24	1.0569	P	1.5	-16.9
6	<input type="checkbox"/>	250.000	242.496	98538.36	1.3567	P	1.7	-3.0
7	<input type="checkbox"/>	2500.000	2511.954	458081.39	6.2643	P	1.6	0.5
8	<input type="checkbox"/>	12500.00	11304.41	2000126.91	25.2777	A	1.3	-9.6
9	<input type="checkbox"/>	25000.00	24600.42	4411275.46	54.0298	A	1.4	-1.6
10	<input type="checkbox"/>	50000.00	50498.19	9921294.78	110.032	A	0.9	1.0
11	<input type="checkbox"/>			189007.66	2.3492	P	1.2	

$y = 0.0022 * x + 0.8323$

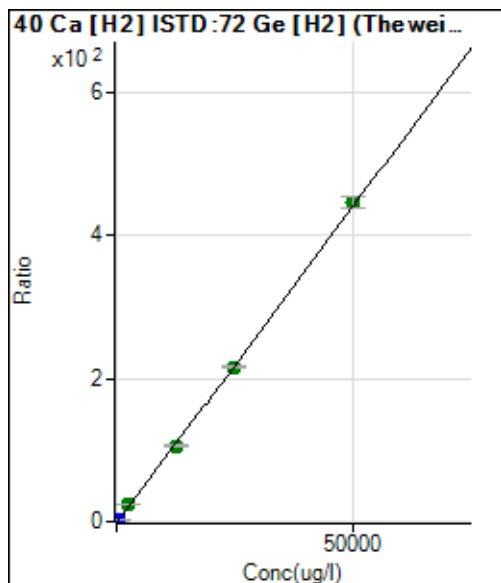
$R = 0.9997$

DL = 27.82 ug/l

BEC = 384.9 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	75887.24	0.1976	P	0.2	
2	<input type="checkbox"/>	6.250	8.425	100886.17	0.2721	P	2.5	34.8
3	<input type="checkbox"/>	12.500	13.762	118209.40	0.3193	P	1.1	10.1
4	<input type="checkbox"/>	25.000	28.359	164959.89	0.4483	P	2.1	13.4
5	<input type="checkbox"/>	125.000	131.314	493687.45	1.3586	P	1.5	5.1
6	<input type="checkbox"/>	250.000	273.783	947617.75	2.6182	P	1.5	9.5
7	<input type="checkbox"/>	2500.000	2581.166	8545005.23	23.0183	A	0.8	3.2
8	<input type="checkbox"/>	12500.00	11967.11	40359619.45	106.001	A	2.2	-4.3
9	<input type="checkbox"/>	25000.00	24400.58	85001255.76	215.928	A	1.7	-2.4
10	<input type="checkbox"/>	50000.00	50428.73	184166880.3	446.049	A	3.5	0.9
11	<input type="checkbox"/>			129316.66	0.3229	P	2.4	

$y = 0.0088 * x + 0.1976$

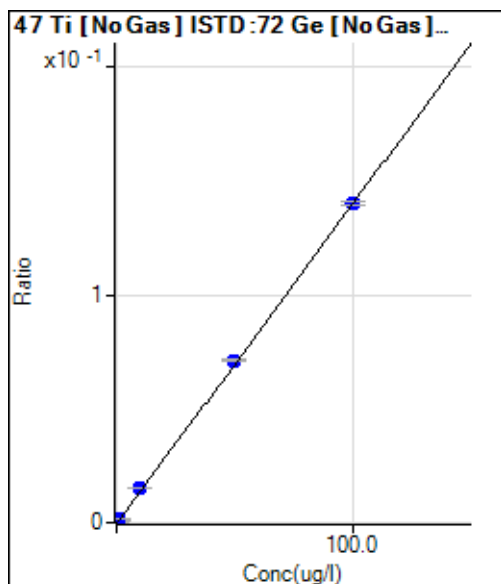
$R = 0.9998$

DL = 0.1327 ug/l

BEC = 22.35 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	101.77	0.0002	P	10.0	
2	<input type="checkbox"/>	0.025	0.039	125.13	0.0003	P	37.7	54.9
3	<input type="checkbox"/>	0.050	0.091	161.83	0.0003	P	25.8	82.0
4	<input type="checkbox"/>	0.100	0.161	203.54	0.0004	P	10.9	60.6
5	<input type="checkbox"/>	0.500	0.516	442.12	0.0009	P	9.5	3.2
6	<input type="checkbox"/>	1.000	1.065	805.83	0.0017	P	14.4	6.5
7	<input type="checkbox"/>	10.000	10.501	7122.26	0.0150	P	1.0	5.0
8	<input type="checkbox"/>	50.000	50.576	35924.96	0.0713	P	1.3	1.2
9	<input type="checkbox"/>	100.000	99.661	71144.45	0.1403	P	1.0	-0.3
10	<input type="checkbox"/>			4919.12	0.0090	P	5.4	
11	<input type="checkbox"/>			293.64	0.0005	P	10.5	

$y = 0.0014 * x + 1.9948E-004$

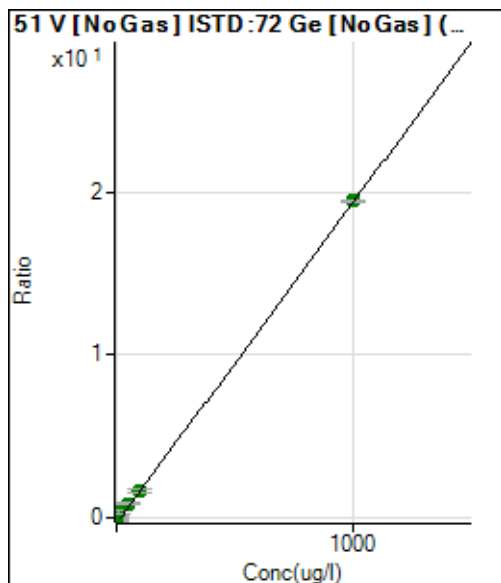
$R = 1.0000$

DL = 0.04273 ug/l

BEC = 0.1419 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	-104473.71	-0.2055	A	-23.5	
2	<input type="checkbox"/>	0.025	16.602	59587.33	0.1205	A	123.1	66309.7
3	<input type="checkbox"/>	0.050	3.400	-68899.99	-0.1387	A	-106.	6700.5
4	<input type="checkbox"/>	0.100	7.885	-24191.56	-0.0507	A	-372.	7785.2
5	<input type="checkbox"/>	0.500	4.311	-56682.04	-0.1209	A	-195.	762.2
6	<input type="checkbox"/>	1.000	12.876	22400.33	0.0473	A	177.9	1187.6
7	<input type="checkbox"/>	10.000	29.016	172124.66	0.3642	A	61.1	190.2
8	<input type="checkbox"/>	50.000	55.937	450323.33	0.8928	A	15.9	11.9
9	<input type="checkbox"/>	100.000	94.671	835553.00	1.6534	A	15.1	-5.3
10	<input type="checkbox"/>	1000.000	1000.031	10597880.14	19.4308	A	0.9	0.0
11	<input type="checkbox"/>			2852.27	0.0054	A	782.8	

$y = 0.0196 * x - 0.2055$

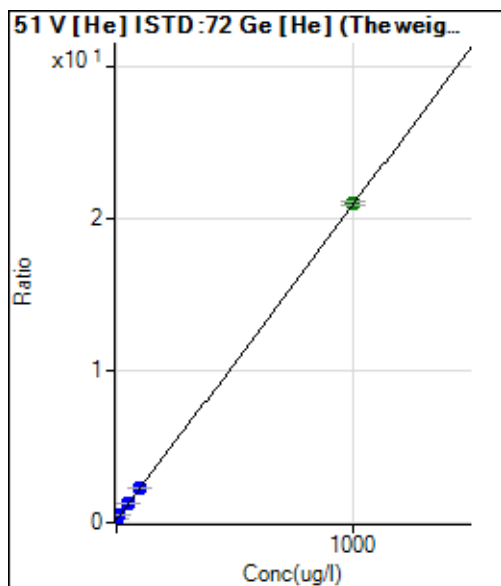
$R = 0.9997$

DL = 7.391 ug/l

BEC = -10.47 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	22350.42	0.2884	P	0.2	
2	<input type="checkbox"/>	0.025	0.442	22490.79	0.2976	P	1.1	1669.0
3	<input type="checkbox"/>	0.050	-0.155	21518.04	0.2852	P	1.6	-409.6
4	<input type="checkbox"/>	0.100	-0.231	21029.62	0.2836	P	0.7	-330.7
5	<input type="checkbox"/>	0.500	0.107	21228.71	0.2906	P	1.6	-78.5
6	<input type="checkbox"/>	1.000	0.645	21915.33	0.3018	P	2.8	-35.5
7	<input type="checkbox"/>	10.000	10.312	36703.52	0.5019	P	2.4	3.1
8	<input type="checkbox"/>	50.000	48.981	103074.71	1.3027	P	1.4	-2.0
9	<input type="checkbox"/>	100.000	95.401	184831.79	2.2640	P	1.8	-4.6
10	<input type="checkbox"/>	1000.000	1000.508	1894046.69	21.0072	A	1.0	0.1
11	<input type="checkbox"/>			16927.63	0.2104	P	2.3	

$y = 0.0207 * x + 0.2884$

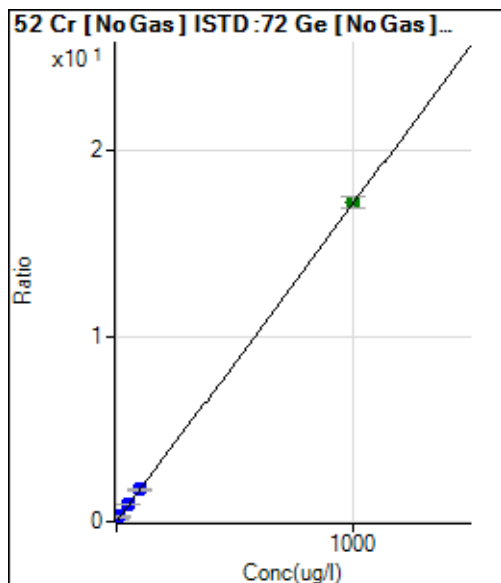
$R = 1.0000$

DL = 0.09797 ug/l

BEC = 13.93 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	49281.95	0.0967	P	1.5	
2	<input type="checkbox"/>	0.025	0.259	50016.42	0.1011	P	0.6	937.5
3	<input type="checkbox"/>	0.050	-0.100	46958.83	0.0950	P	2.1	-300.4
4	<input type="checkbox"/>	0.100	-0.027	46017.51	0.0962	P	2.6	-126.6
5	<input type="checkbox"/>	0.500	0.327	48834.42	0.1023	P	3.2	-34.5
6	<input type="checkbox"/>	1.000	0.933	53611.61	0.1127	P	3.9	-6.7
7	<input type="checkbox"/>	10.000	9.639	124576.84	0.2617	P	1.7	-3.6
8	<input type="checkbox"/>	50.000	49.608	476538.54	0.9462	P	3.0	-0.8
9	<input type="checkbox"/>	100.000	95.684	879316.44	1.7352	P	2.9	-4.3
10	<input type="checkbox"/>	1000.000	1000.455	9404219.41	17.2286	A	3.2	0.0
11	<input type="checkbox"/>			61463.31	0.1136	P	3.1	

$$y = 0.0171 * x + 0.0967$$

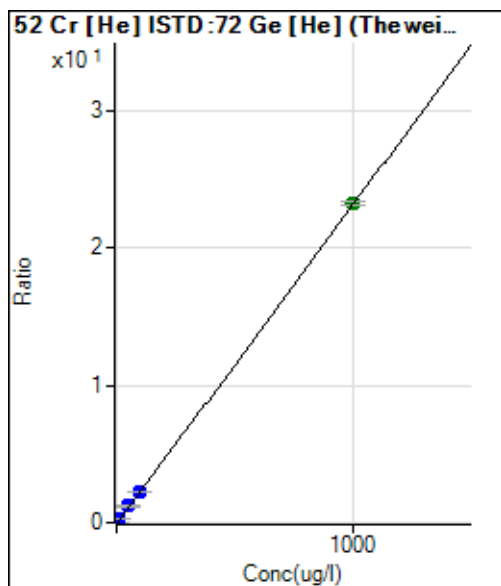
$$R = 1.0000$$

$$DL = 0.2478 \text{ ug/l}$$

$$BEC = 5.646 \text{ ug/l}$$

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	845.59	0.0109	P	7.4	
2	<input type="checkbox"/>	0.025	0.041	897.81	0.0119	P	8.2	64.7
3	<input type="checkbox"/>	0.050	0.052	915.59	0.0121	P	8.9	4.7
4	<input type="checkbox"/>	0.100	0.123	1022.26	0.0138	P	2.7	23.1
5	<input type="checkbox"/>	0.500	0.565	1754.56	0.0240	P	9.1	12.9
6	<input type="checkbox"/>	1.000	1.148	2731.38	0.0376	P	1.5	14.8
7	<input type="checkbox"/>	10.000	10.344	18373.78	0.2513	P	2.5	3.4
8	<input type="checkbox"/>	50.000	51.050	94716.74	1.1970	P	1.8	2.1
9	<input type="checkbox"/>	100.000	97.634	186097.60	2.2794	P	2.4	-2.4
10	<input type="checkbox"/>	1000.000	1000.181	2096267.00	23.2495	A	1.5	0.0
11	<input type="checkbox"/>			987.82	0.0123	P	3.1	

$$y = 0.0232 * x + 0.0109$$

$$R = 1.0000$$

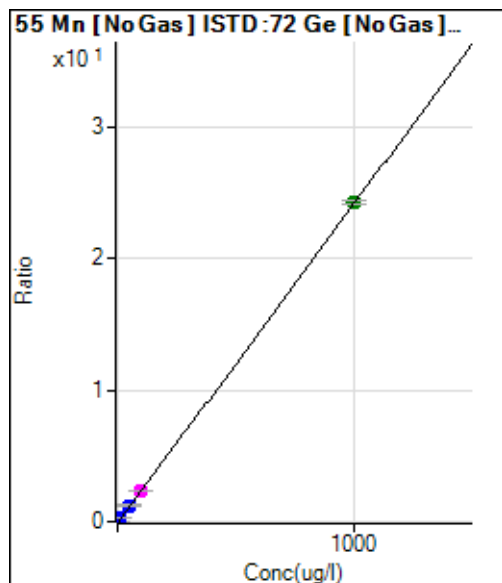
$$DL = 0.1044 \text{ ug/l}$$

$$BEC = 0.4701 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	9058.20	0.0178	P	2.1	
2	<input type="checkbox"/>	0.025	0.024	9074.83	0.0183	P	2.7	-5.0
3	<input type="checkbox"/>	0.050	0.040	9267.93	0.0187	P	2.4	-20.0
4	<input type="checkbox"/>	0.100	0.102	9677.36	0.0202	P	5.7	1.7
5	<input type="checkbox"/>	0.500	0.489	14152.11	0.0296	P	3.8	-2.1
6	<input type="checkbox"/>	1.000	0.996	19940.81	0.0419	P	1.8	-0.4
7	<input type="checkbox"/>	10.000	10.120	125320.59	0.2632	P	1.7	1.2
8	<input type="checkbox"/>	50.000	50.369	624271.41	1.2393	P	2.8	0.7
9	<input type="checkbox"/>	100.000	97.590	1209116.67	2.3844	M	1.6	-2.4
10	<input type="checkbox"/>	1000.000	1000.221	13242282.65	24.2740	A	1.4	0.0
11	<input type="checkbox"/>			11611.61	0.0215	P	1.1	

$$y = 0.0243 * x + 0.0178$$

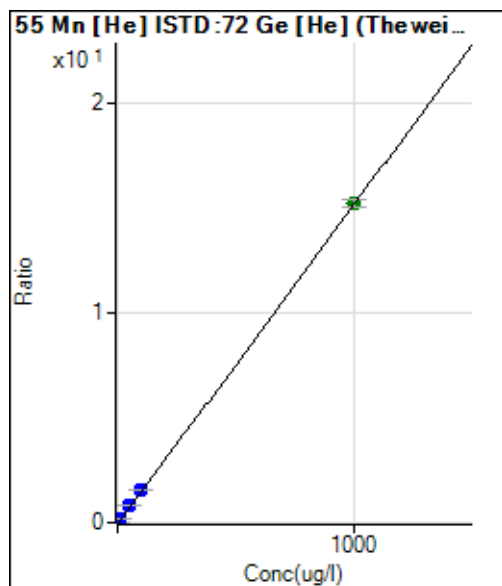
$$R = 1.0000$$

$$DL = 0.04696 \text{ ug/l}$$

$$BEC = 0.7329 \text{ ug/l}$$

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	105.65	0.0014	P	6.1	
2	<input type="checkbox"/>	0.025	0.024	130.31	0.0017	P	4.4	-5.5
3	<input type="checkbox"/>	0.050	0.054	164.97	0.0022	P	10.7	7.8
4	<input type="checkbox"/>	0.100	0.106	221.29	0.0030	P	7.9	6.1
5	<input type="checkbox"/>	0.500	0.508	665.88	0.0091	P	1.5	1.6
6	<input type="checkbox"/>	1.000	1.117	1336.80	0.0184	P	4.1	11.7
7	<input type="checkbox"/>	10.000	10.678	12016.17	0.1643	P	0.9	6.8
8	<input type="checkbox"/>	50.000	52.406	63377.41	0.8011	P	1.7	4.8
9	<input type="checkbox"/>	100.000	100.547	125387.55	1.5358	P	1.1	0.5
10	<input type="checkbox"/>	1000.000	999.818	1375680.26	15.2595	A	2.1	0.0
11	<input type="checkbox"/>			169.97	0.0021	P	3.4	

$$y = 0.0153 * x + 0.0014$$

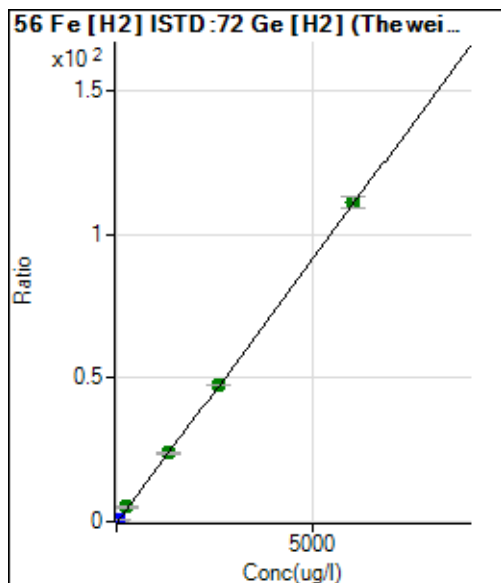
$$R = 1.0000$$

$$DL = 0.01641 \text{ ug/l}$$

$$BEC = 0.08933 \text{ ug/l}$$

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	6955.33	0.0181	P	3.2	
2	<input type="checkbox"/>	0.650	0.656	11212.26	0.0302	P	2.3	0.9
3	<input type="checkbox"/>	1.300	1.376	16128.44	0.0436	P	2.6	5.8
4	<input type="checkbox"/>	2.600	2.970	26868.25	0.0730	P	3.4	14.2
5	<input type="checkbox"/>	13.000	13.844	99607.16	0.2741	P	1.5	6.5
6	<input type="checkbox"/>	26.000	28.999	200619.45	0.5543	P	3.3	11.5
7	<input type="checkbox"/>	260.000	272.317	1875923.23	5.0536	A	1.7	4.7
8	<input type="checkbox"/>	1300.000	1291.646	9101342.69	23.9022	A	2.8	-0.6
9	<input type="checkbox"/>	2600.000	2575.526	18754840.43	47.6427	A	0.2	-0.9
10	<input type="checkbox"/>	6000.000	6011.867	45908539.84	111.184	A	3.2	0.2
11	<input type="checkbox"/>			11359.18	0.0284	P	2.0	

$$y = 0.0185 * x + 0.0181$$

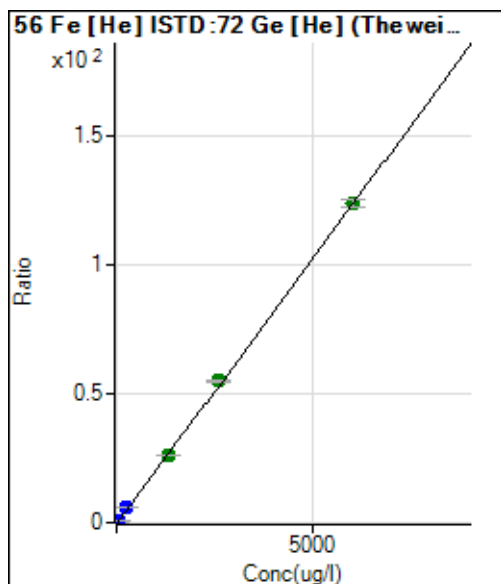
$$R = 1.0000$$

$$DL = 0.09352 \text{ ug/l}$$

$$BEC = 0.9798 \text{ ug/l}$$

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	3203.59	0.0414	P	3.7	
2	<input type="checkbox"/>	0.650	0.825	4416.79	0.0584	P	3.6	27.0
3	<input type="checkbox"/>	1.300	1.448	5379.74	0.0713	P	1.9	11.4
4	<input type="checkbox"/>	2.600	3.004	7669.75	0.1035	P	5.7	15.5
5	<input type="checkbox"/>	13.000	13.654	23652.89	0.3238	P	1.7	5.0
6	<input type="checkbox"/>	26.000	29.272	46980.53	0.6468	P	1.4	12.6
7	<input type="checkbox"/>	260.000	277.282	422403.51	5.7766	P	2.1	6.6
8	<input type="checkbox"/>	1300.000	1270.993	2083294.99	26.3302	A	0.5	-2.2
9	<input type="checkbox"/>	2600.000	2651.223	4480516.04	54.8784	A	0.7	2.0
10	<input type="checkbox"/>	6000.000	5983.324	11160505.53	123.798	A	2.5	-0.3
11	<input type="checkbox"/>			4403.44	0.0547	P	2.3	

$$y = 0.0207 * x + 0.0414$$

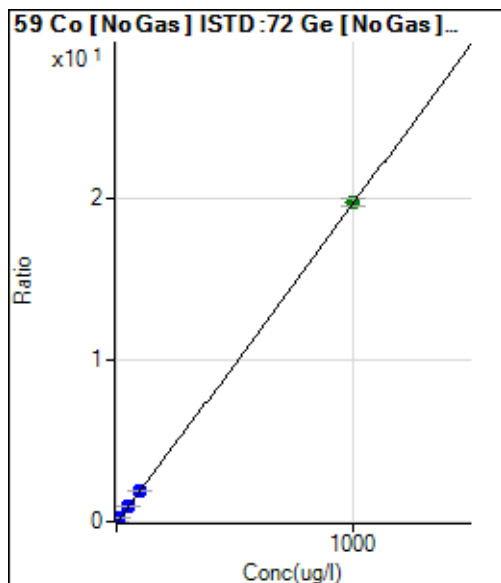
$$R = 0.9999$$

$$DL = 0.2215 \text{ ug/l}$$

$$BEC = 2 \text{ ug/l}$$

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	239.53	0.0005	P	21.2	
2	<input type="checkbox"/>	0.025	0.029	515.65	0.0010	P	11.8	16.4
3	<input type="checkbox"/>	0.050	0.053	745.21	0.0015	P	3.5	5.1
4	<input type="checkbox"/>	0.100	0.121	1367.35	0.0029	P	2.7	20.9
5	<input type="checkbox"/>	0.500	0.508	5014.24	0.0105	P	5.2	1.5
6	<input type="checkbox"/>	1.000	1.054	10123.48	0.0213	P	2.9	5.4
7	<input type="checkbox"/>	10.000	9.963	93887.82	0.1972	P	1.4	-0.4
8	<input type="checkbox"/>	50.000	49.916	496845.67	0.9863	P	2.1	-0.2
9	<input type="checkbox"/>	100.000	95.390	955148.84	1.8845	P	1.9	-4.6
10	<input type="checkbox"/>	1000.000	1000.465	10773775.33	19.7602	A	2.1	0.0
11	<input type="checkbox"/>			685.33	0.0013	P	12.7	

$$y = 0.0198 * x + 4.6967E-004$$

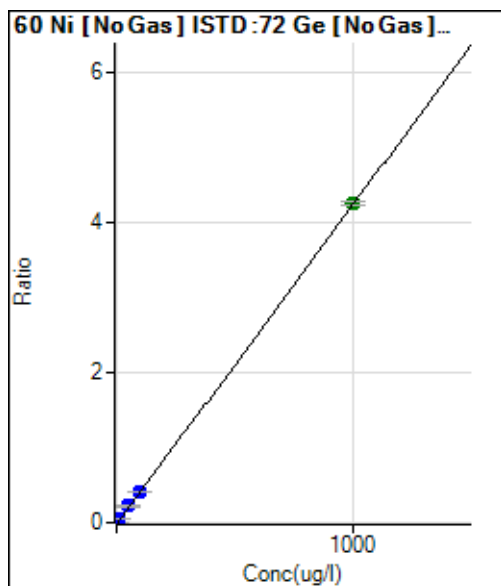
$$R = 1.0000$$

$$DL = 0.01514 \text{ ug/l}$$

$$BEC = 0.02378 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	316.04	0.0006	P	19.9	
2	<input type="checkbox"/>	0.025	0.041	392.56	0.0008	P	24.0	64.2
3	<input type="checkbox"/>	0.050	0.033	375.93	0.0008	P	11.3	-34.4
4	<input type="checkbox"/>	0.100	0.067	432.48	0.0009	P	7.3	-33.3
5	<input type="checkbox"/>	0.500	0.462	1234.27	0.0026	P	6.0	-7.5
6	<input type="checkbox"/>	1.000	1.030	2375.49	0.0050	P	5.3	3.0
7	<input type="checkbox"/>	10.000	10.178	20880.16	0.0439	P	2.2	1.8
8	<input type="checkbox"/>	50.000	51.286	110067.02	0.2185	P	1.6	2.6
9	<input type="checkbox"/>	100.000	97.483	210238.27	0.4147	P	2.0	-2.5
10	<input type="checkbox"/>	1000.000	1000.186	2317128.15	4.2492	A	1.5	0.0
11	<input type="checkbox"/>			382.58	0.0007	P	41.3	

$$y = 0.0042 * x + 6.2124E-004$$

$$R = 1.0000$$

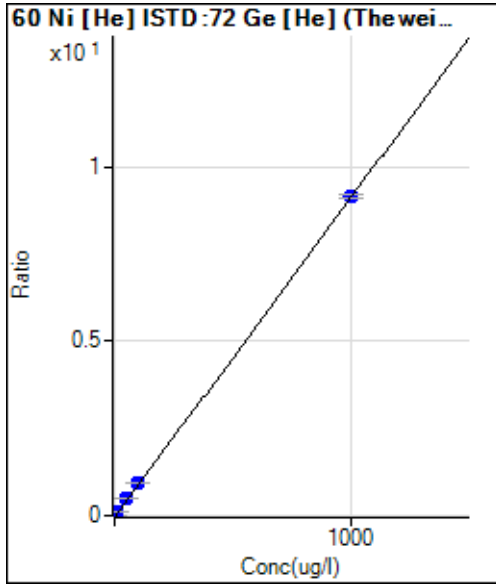
$$DL = 0.08742 \text{ ug/l}$$

$$BEC = 0.1462 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	66.67	0.0009	P	10.2	
2	<input type="checkbox"/>	0.025	0.028	84.44	0.0011	P	8.9	13.0
3	<input type="checkbox"/>	0.050	0.024	81.11	0.0011	P	13.7	-52.6
4	<input type="checkbox"/>	0.100	0.114	141.11	0.0019	P	18.0	13.8
5	<input type="checkbox"/>	0.500	0.529	416.68	0.0057	P	4.2	5.8
6	<input type="checkbox"/>	1.000	1.154	828.92	0.0114	P	6.5	15.4
7	<input type="checkbox"/>	10.000	10.998	7421.92	0.1015	P	2.4	10.0
8	<input type="checkbox"/>	50.000	53.021	38451.60	0.4860	P	0.8	6.0
9	<input type="checkbox"/>	100.000	100.816	75389.07	0.9234	P	2.7	0.8
10	<input type="checkbox"/>	1000.000	999.757	824909.62	9.1491	P	1.0	0.0
11	<input type="checkbox"/>			80.00	0.0010	P	20.1	

$$y = 0.0092 * x + 8.5858E-004$$

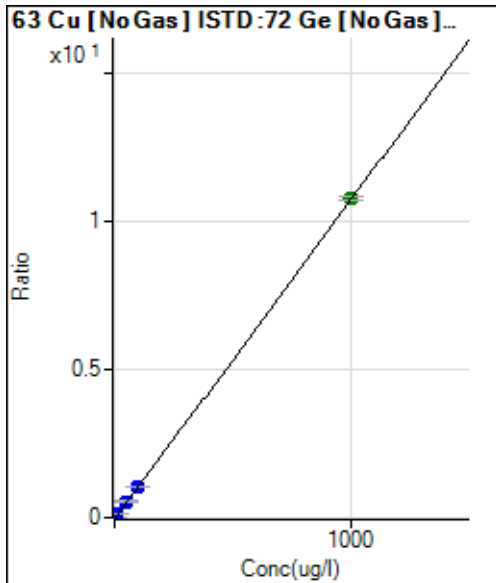
$$R = 1.0000$$

$$DL = 0.02885 \text{ ug/l}$$

$$BEC = 0.09383 \text{ ug/l}$$

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	1331.27	0.0026	P	5.9	
2	<input type="checkbox"/>	0.025	0.020	1399.30	0.0028	P	5.2	-19.6
3	<input type="checkbox"/>	0.050	0.037	1490.01	0.0030	P	3.9	-25.6
4	<input type="checkbox"/>	0.100	0.096	1744.14	0.0036	P	3.5	-4.0
5	<input type="checkbox"/>	0.500	0.508	3857.40	0.0081	P	1.9	1.6
6	<input type="checkbox"/>	1.000	1.054	6634.85	0.0139	P	3.3	5.4
7	<input type="checkbox"/>	10.000	10.414	54550.00	0.1146	P	1.9	4.1
8	<input type="checkbox"/>	50.000	50.832	276703.46	0.5494	P	3.2	1.7
9	<input type="checkbox"/>	100.000	97.867	534951.12	1.0553	P	1.3	-2.1
10	<input type="checkbox"/>	1000.000	1000.168	5870376.18	10.7607	A	1.5	0.0
11	<input type="checkbox"/>			2089.66	0.0039	P	2.1	

$$y = 0.0108 * x + 0.0026$$

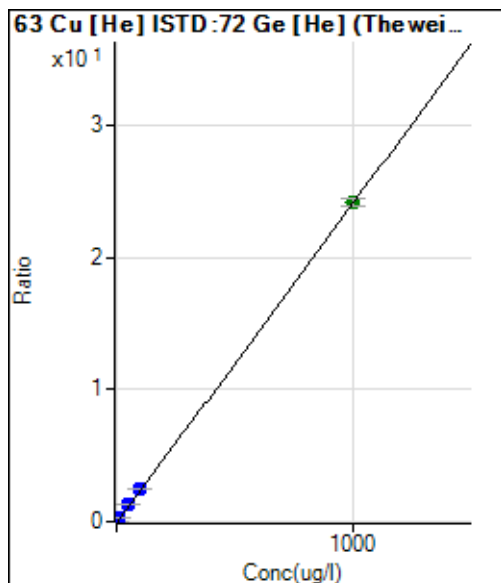
$$R = 1.0000$$

$$DL = 0.04314 \text{ ug/l}$$

$$BEC = 0.2429 \text{ ug/l}$$

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	482.58	0.0062	P	4.2	
2	<input type="checkbox"/>	0.025	0.019	506.58	0.0067	P	3.8	-22.4
3	<input type="checkbox"/>	0.050	0.043	548.90	0.0073	P	2.3	-13.8
4	<input type="checkbox"/>	0.100	0.090	623.22	0.0084	P	3.6	-10.3
5	<input type="checkbox"/>	0.500	0.550	1427.79	0.0196	P	4.7	10.0
6	<input type="checkbox"/>	1.000	1.216	2592.71	0.0357	P	1.2	21.6
7	<input type="checkbox"/>	10.000	11.464	20764.21	0.2839	P	0.2	14.6
8	<input type="checkbox"/>	50.000	55.357	106579.18	1.3472	P	2.3	10.7
9	<input type="checkbox"/>	100.000	104.188	206571.50	2.5302	P	0.3	4.2
10	<input type="checkbox"/>	1000.000	999.298	2182905.24	24.2139	A	2.7	-0.1
11	<input type="checkbox"/>			653.88	0.0081	P	3.2	

$$y = 0.0242 * x + 0.0062$$

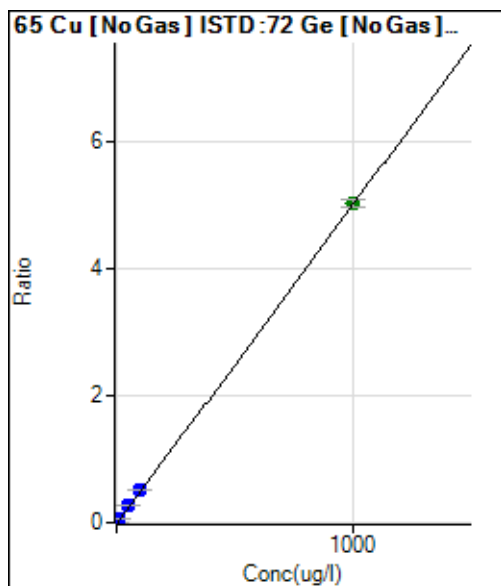
$$R = 1.0000$$

$$DL = 0.03278 \text{ ug/l}$$

$$BEC = 0.2573 \text{ ug/l}$$

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	623.60	0.0012	P	7.6	
2	<input type="checkbox"/>	0.025	0.026	670.29	0.0014	P	2.3	4.2
3	<input type="checkbox"/>	0.050	0.023	663.62	0.0013	P	1.6	-53.0
4	<input type="checkbox"/>	0.100	0.096	816.35	0.0017	P	0.9	-3.9
5	<input type="checkbox"/>	0.500	0.512	1814.18	0.0038	P	4.7	2.5
6	<input type="checkbox"/>	1.000	1.079	3162.28	0.0066	P	2.7	7.9
7	<input type="checkbox"/>	10.000	10.648	26053.66	0.0547	P	1.4	6.5
8	<input type="checkbox"/>	50.000	52.263	132893.85	0.2639	P	3.5	4.5
9	<input type="checkbox"/>	100.000	99.843	255014.00	0.5030	P	0.9	-0.2
10	<input type="checkbox"/>	1000.000	999.896	2740255.85	5.0261	A	2.7	0.0
11	<input type="checkbox"/>			815.69	0.0015	P	3.9	

$$y = 0.0050 * x + 0.0012$$

$$R = 1.0000$$

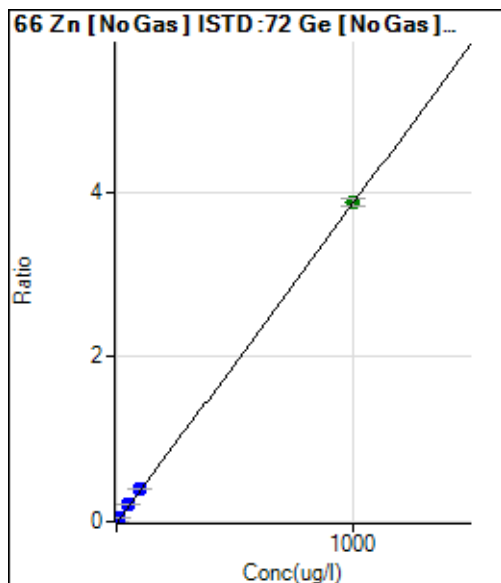
$$DL = 0.05529 \text{ ug/l}$$

$$BEC = 0.2436 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	281.05	0.0006	P	11.5	
2	<input type="checkbox"/>			593.59	0.0012	P	10.1	
3	<input type="checkbox"/>	0.050	0.079	424.00	0.0009	P	10.7	57.5
4	<input type="checkbox"/>	0.100	0.111	470.71	0.0010	P	5.0	11.4
5	<input type="checkbox"/>	0.500	0.685	1531.92	0.0032	P	2.5	37.0
6	<input type="checkbox"/>	1.000	1.091	2274.01	0.0048	P	6.9	9.1
7	<input type="checkbox"/>	10.000	10.844	20281.40	0.0426	P	1.3	8.4
8	<input type="checkbox"/>	50.000	52.404	102641.45	0.2037	P	2.2	4.8
9	<input type="checkbox"/>	100.000	103.283	203169.27	0.4010	P	3.5	3.3
10	<input type="checkbox"/>	1000.000	999.543	2113874.60	3.8760	A	1.9	0.0
11	<input type="checkbox"/>			587.41	0.0011	P	5.1	

$$y = 0.0039 * x + 5.5191E-004$$

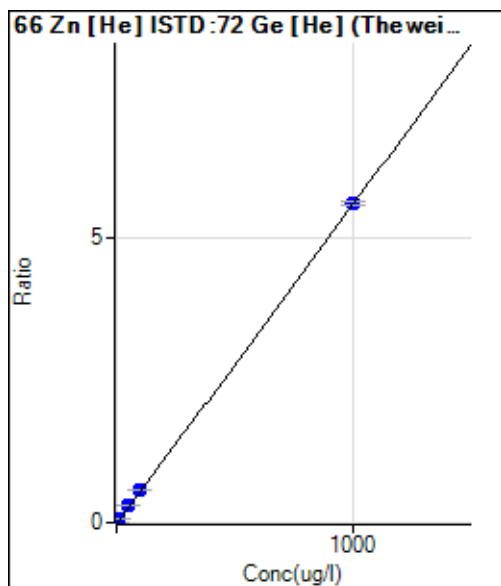
$$R = 1.0000$$

$$DL = 0.04919 \text{ ug/l}$$

$$BEC = 0.1423 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	63.34	0.0008	P	11.7	
2	<input type="checkbox"/>			137.78	0.0018	P	19.3	
3	<input type="checkbox"/>	0.050	0.101	104.44	0.0014	P	15.0	102.0
4	<input type="checkbox"/>	0.100	0.108	105.55	0.0014	P	5.9	7.9
5	<input type="checkbox"/>	0.500	0.687	341.12	0.0047	P	4.3	37.5
6	<input type="checkbox"/>	1.000	1.237	562.24	0.0077	P	7.7	23.7
7	<input type="checkbox"/>	10.000	11.310	4691.90	0.0642	P	4.5	13.1
8	<input type="checkbox"/>	50.000	54.218	24095.57	0.3045	P	4.4	8.4
9	<input type="checkbox"/>	100.000	104.395	47806.08	0.5855	P	0.9	4.4
10	<input type="checkbox"/>	1000.000	999.336	504728.76	5.5981	P	1.4	-0.1
11	<input type="checkbox"/>			103.33	0.0013	P	24.1	

$$y = 0.0056 * x + 8.1910E-004$$

$$R = 1.0000$$

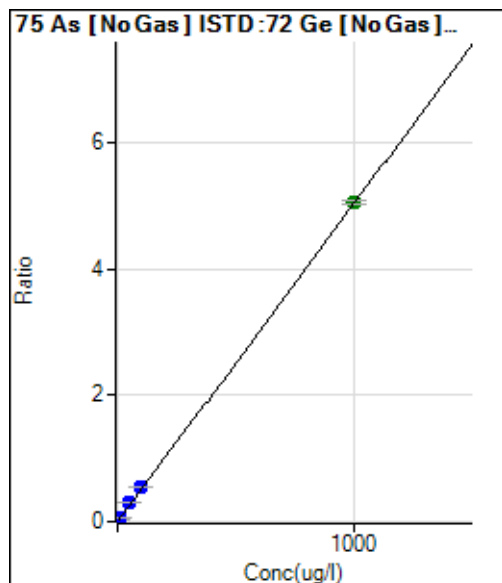
$$DL = 0.0514 \text{ ug/l}$$

$$BEC = 0.1462 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	13490.47	0.0265	P	7.8	
2	<input type="checkbox"/>	0.025	-0.310	12332.74	0.0249	P	7.6	-1341.3
3	<input type="checkbox"/>	0.050	-1.040	10517.29	0.0212	P	54.8	-2180.8
4	<input type="checkbox"/>	0.100	-1.018	10225.10	0.0214	P	31.9	-1118.1
5	<input type="checkbox"/>	0.500	-1.005	10231.94	0.0214	P	15.9	-300.9
6	<input type="checkbox"/>	1.000	0.351	13411.05	0.0282	P	23.6	-64.9
7	<input type="checkbox"/>	10.000	7.353	30171.82	0.0634	P	4.6	-26.5
8	<input type="checkbox"/>	50.000	54.036	150110.08	0.2980	P	3.4	8.1
9	<input type="checkbox"/>	100.000	101.981	273205.06	0.5390	P	1.6	2.0
10	<input type="checkbox"/>	1000.000	999.628	2755412.15	5.0503	A	1.0	0.0
11	<input type="checkbox"/>			13903.40	0.0257	P	32.3	

$$y = 0.0050 * x + 0.0265$$

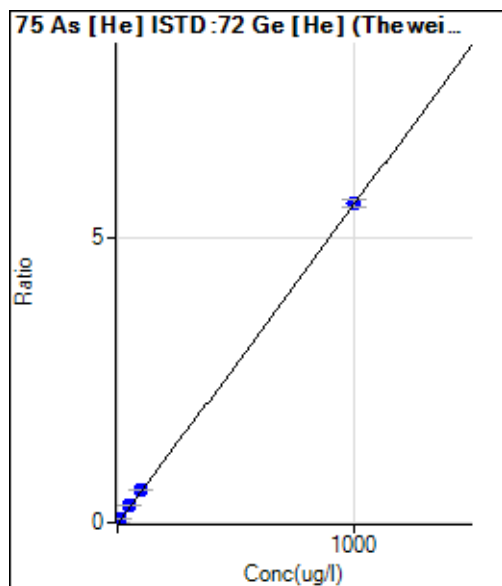
$$R = 1.0000$$

$$DL = 1.236 \text{ ug/l}$$

$$BEC = 5.267 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	275.73	0.0036	P	2.5	
2	<input type="checkbox"/>	0.025	0.023	278.60	0.0037	P	0.6	-9.1
3	<input type="checkbox"/>	0.050	0.026	279.40	0.0037	P	1.8	-48.3
4	<input type="checkbox"/>	0.100	0.082	298.13	0.0040	P	2.5	-17.6
5	<input type="checkbox"/>	0.500	0.482	456.67	0.0063	P	1.4	-3.7
6	<input type="checkbox"/>	1.000	1.073	694.27	0.0096	P	2.9	7.3
7	<input type="checkbox"/>	10.000	10.522	4562.56	0.0624	P	0.8	5.2
8	<input type="checkbox"/>	50.000	52.546	23525.19	0.2974	P	1.2	5.1
9	<input type="checkbox"/>	100.000	101.291	46530.28	0.5699	P	0.6	1.3
10	<input type="checkbox"/>	1000.000	999.738	504254.30	5.5935	P	2.3	0.0
11	<input type="checkbox"/>			350.53	0.0044	P	3.5	

$$y = 0.0056 * x + 0.0036$$

$$R = 1.0000$$

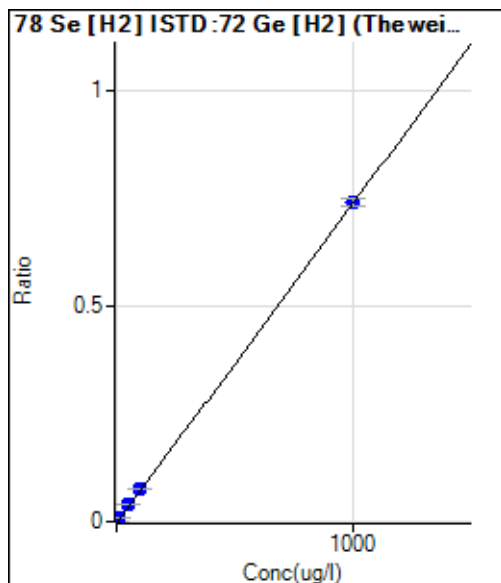
$$DL = 0.04696 \text{ ug/l}$$

$$BEC = 0.6365 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	27.44	0.0001	P	20.5	
2	<input type="checkbox"/>	0.025	0.047	39.44	0.0001	P	10.3	88.0
3	<input type="checkbox"/>	0.050	0.059	42.67	0.0001	P	6.2	17.6
4	<input type="checkbox"/>	0.100	0.109	56.22	0.0002	P	4.8	9.4
5	<input type="checkbox"/>	0.500	0.508	163.11	0.0004	P	1.3	1.7
6	<input type="checkbox"/>	1.000	1.166	339.00	0.0009	P	5.8	16.6
7	<input type="checkbox"/>	10.000	10.572	2938.97	0.0079	P	1.7	5.7
8	<input type="checkbox"/>	50.000	54.722	15490.90	0.0407	P	0.9	9.4
9	<input type="checkbox"/>	100.000	101.770	29760.23	0.0756	P	0.4	1.8
10	<input type="checkbox"/>	1000.000	999.581	306367.36	0.7419	P	2.7	0.0
11	<input type="checkbox"/>			108.55	0.0003	P	2.4	

$$y = 7.4215E-004 * x + 7.1594E-005$$

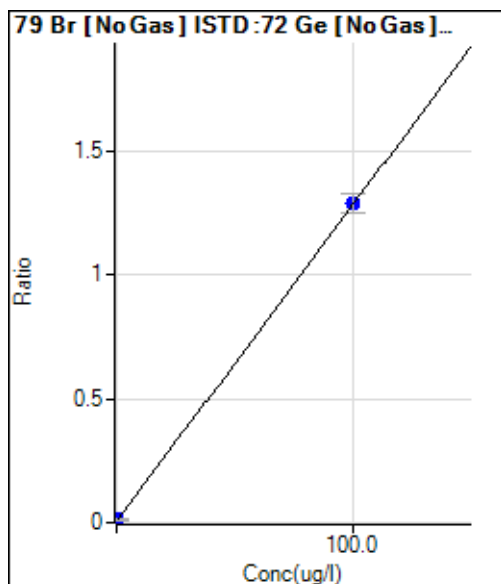
R = 1.0000

DL = 0.0592 ug/l

BEC = 0.09647 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	6119.19	0.0120	P	7.1	
2	<input type="checkbox"/>			5826.30	0.0118	P	4.2	
3	<input type="checkbox"/>			5776.41	0.0117	P	1.4	
4	<input type="checkbox"/>			5550.09	0.0116	P	7.9	
5	<input type="checkbox"/>			5097.46	0.0107	P	1.9	
6	<input type="checkbox"/>			4987.65	0.0105	P	5.4	
7	<input type="checkbox"/>			5270.53	0.0111	P	5.1	
8	<input type="checkbox"/>			5084.16	0.0101	P	4.5	
9	<input type="checkbox"/>			5876.23	0.0116	P	8.4	
10	<input type="checkbox"/>			6525.21	0.0120	P	5.9	
11	<input type="checkbox"/>	100.000	100.000	698147.50	1.2909	P	6.3	0.0

$$y = 0.0128 * x + 0.0120$$

R = 1.0000

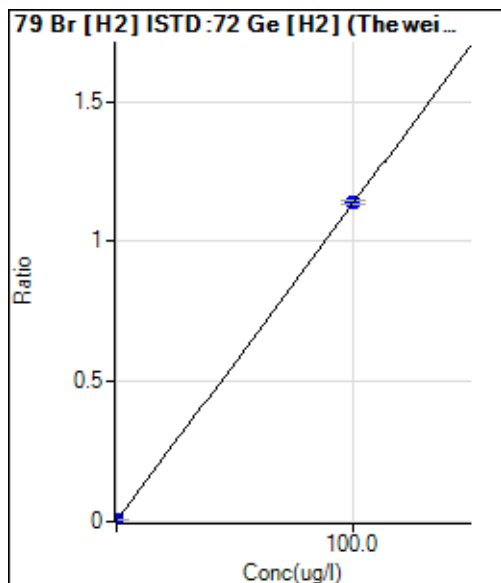
DL = 0.2001 ug/l

BEC = 0.9379 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	3297.18	0.0086	P	2.0	
2	<input type="checkbox"/>			3287.19	0.0089	P	1.6	
3	<input type="checkbox"/>			2957.79	0.0080	P	6.2	
4	<input type="checkbox"/>			3037.64	0.0083	P	6.1	
5	<input type="checkbox"/>			3064.26	0.0084	P	6.1	
6	<input type="checkbox"/>			3027.67	0.0084	P	8.4	
7	<input type="checkbox"/>			2867.94	0.0077	P	3.9	
8	<input type="checkbox"/>			3160.75	0.0083	P	2.7	
9	<input type="checkbox"/>			3676.53	0.0093	P	4.3	
10	<input type="checkbox"/>			8791.96	0.0213	P	5.7	
11	<input type="checkbox"/>	100.000	100.000	456472.25	1.1396	P	1.2	0.0

$$y = 0.0113 * x + 0.0086$$

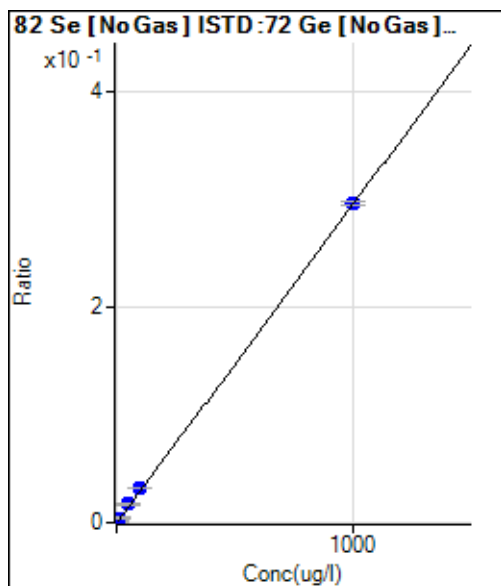
$$R = 1.0000$$

$$DL = 0.04477 \text{ ug/l}$$

$$BEC = 0.7593 \text{ ug/l}$$

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	502.74	0.0010	P	3.4	
2	<input type="checkbox"/>	0.025	0.341	537.94	0.0011	P	11.9	1266.0
3	<input type="checkbox"/>	0.050	-0.938	350.22	0.0007	P	27.5	-1975.7
4	<input type="checkbox"/>	0.100	0.227	502.88	0.0011	P	31.0	127.3
5	<input type="checkbox"/>	0.500	0.006	470.75	0.0010	P	29.1	-98.7
6	<input type="checkbox"/>	1.000	0.613	554.75	0.0012	P	17.5	-38.7
7	<input type="checkbox"/>	10.000	11.062	2024.54	0.0043	P	12.2	10.6
8	<input type="checkbox"/>	50.000	54.173	8551.61	0.0170	P	5.3	8.3
9	<input type="checkbox"/>	100.000	103.985	16065.68	0.0317	P	1.0	4.0
10	<input type="checkbox"/>	1000.000	999.383	161435.72	0.2960	P	1.5	-0.1
11	<input type="checkbox"/>			861.94	0.0016	P	9.8	

$$y = 2.9524E-004 * x + 9.8592E-004$$

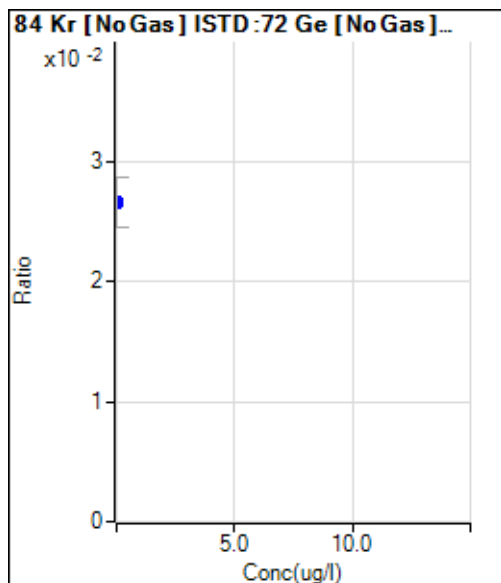
$$R = 1.0000$$

$$DL = 0.3447 \text{ ug/l}$$

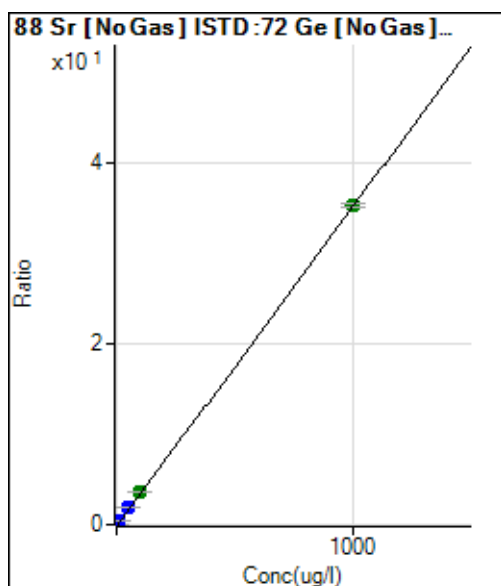
$$BEC = 3.339 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000		13599.60	0.0266	P	15.2	
2	<input type="checkbox"/>			12480.84	0.0252	P	14.2	
3	<input type="checkbox"/>			12580.76	0.0255	P	7.4	
4	<input type="checkbox"/>			12817.14	0.0268	P	14.5	
5	<input type="checkbox"/>			12580.61	0.0264	P	3.9	
6	<input type="checkbox"/>			12360.93	0.0260	P	8.0	
7	<input type="checkbox"/>			14302.22	0.0301	P	11.2	
8	<input type="checkbox"/>			18215.56	0.0361	P	8.9	
9	<input type="checkbox"/>			24739.08	0.0488	P	3.2	
10	<input type="checkbox"/>			130989.24	0.2402	P	1.7	
11	<input type="checkbox"/>			13835.95	0.0256	P	8.4	



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	216.24	0.0004	P	36.8	
2	<input type="checkbox"/>	0.025	0.026	665.37	0.0013	P	6.5	4.0
3	<input type="checkbox"/>	0.050	0.057	1207.66	0.0024	P	2.6	14.0
4	<input type="checkbox"/>	0.100	0.117	2175.86	0.0046	P	4.4	16.5
5	<input type="checkbox"/>	0.500	0.547	9447.73	0.0198	P	2.4	9.3
6	<input type="checkbox"/>	1.000	1.122	19104.84	0.0402	P	3.8	12.2
7	<input type="checkbox"/>	10.000	10.578	178467.33	0.3751	P	3.1	5.8
8	<input type="checkbox"/>	50.000	53.909	961902.88	1.9097	P	2.4	7.8
9	<input type="checkbox"/>	100.000	101.402	1820895.51	3.5918	A	2.1	1.4
10	<input type="checkbox"/>	1000.000	999.658	19316708.75	35.4059	A	1.0	0.0
11	<input type="checkbox"/>			652.06	0.0012	P	1.2	

$$y = 0.0354 * x + 4.2401E-004$$

$$R = 1.0000$$

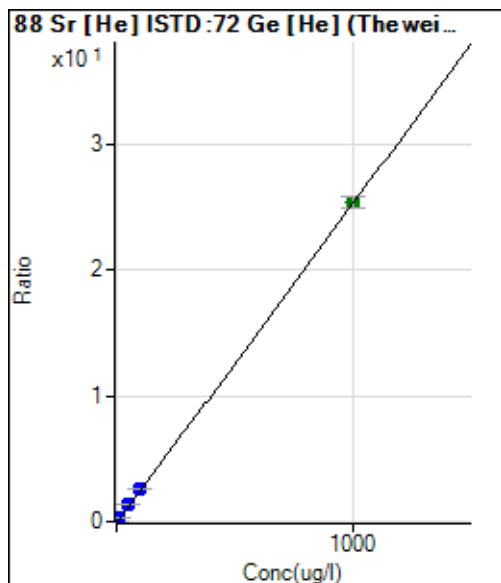
$$DL = 0.01322 \text{ ug/l}$$

$$BEC = 0.01197 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	De _t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	52.22	0.0007	P	25.5	
2	<input type="checkbox"/>	0.025	0.031	111.11	0.0015	P	14.4	25.4
3	<input type="checkbox"/>	0.050	0.067	178.89	0.0024	P	18.4	33.6
4	<input type="checkbox"/>	0.100	0.103	243.34	0.0033	P	8.4	2.6
5	<input type="checkbox"/>	0.500	0.582	1128.94	0.0155	P	5.2	16.3
6	<input type="checkbox"/>	1.000	1.161	2193.52	0.0302	P	2.6	16.1
7	<input type="checkbox"/>	10.000	10.880	20266.58	0.2771	P	1.2	8.8
8	<input type="checkbox"/>	50.000	54.105	108830.08	1.3755	P	1.0	8.2
9	<input type="checkbox"/>	100.000	103.761	215323.18	2.6373	P	1.2	3.8
10	<input type="checkbox"/>	1000.000	999.410	2289161.70	25.3965	A	3.8	-0.1
11	<input type="checkbox"/>			100.00	0.0012	P	24.6	

$$y = 0.0254 * x + 6.7351E-004$$

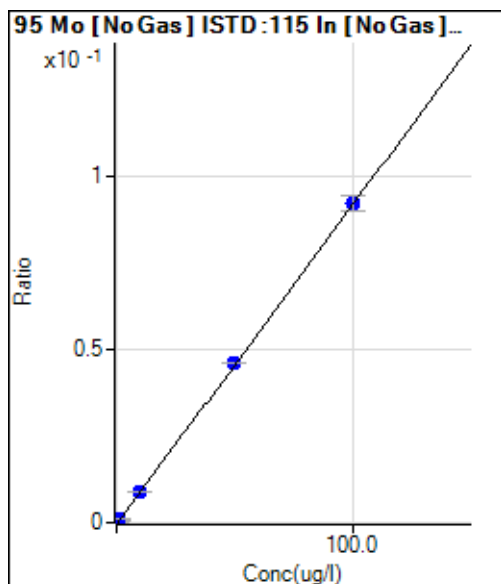
$$R = 1.0000$$

$$DL = 0.02026 \text{ ug/l}$$

$$BEC = 0.0265 \text{ ug/l}$$

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

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	De _t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	40.00	0.0000	P	28.7	
2	<input type="checkbox"/>	0.025	0.021	114.44	0.0000	P	20.9	-14.5
3	<input type="checkbox"/>	0.050	0.046	201.12	0.0001	P	6.8	-7.4
4	<input type="checkbox"/>	0.100	0.092	366.67	0.0001	P	7.0	-7.6
5	<input type="checkbox"/>	0.500	0.470	1650.11	0.0004	P	1.3	-6.1
6	<input type="checkbox"/>	1.000	1.020	3572.69	0.0009	P	4.6	2.0
7	<input type="checkbox"/>	10.000	9.547	33237.54	0.0088	P	3.5	-4.5
8	<input type="checkbox"/>	50.000	50.228	173318.37	0.0463	P	0.0	0.5
9	<input type="checkbox"/>	100.000	99.931	346297.08	0.0920	P	4.9	-0.1
10	<input type="checkbox"/>			415.56	0.0001	P	4.2	
11	<input type="checkbox"/>			91.11	0.0000	P	16.4	

$$y = 9.2059E-004 * x + 1.0183E-005$$

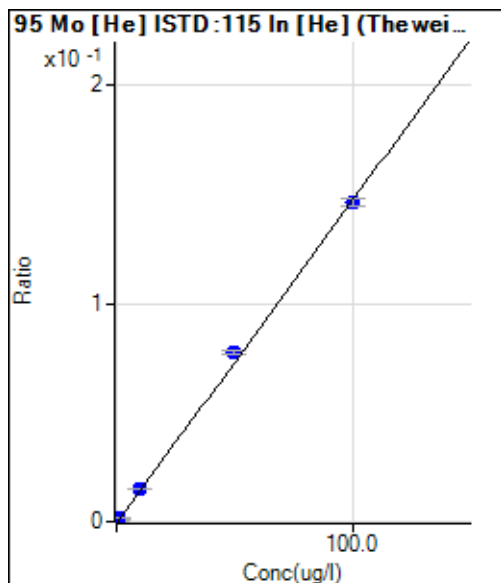
$$R = 1.0000$$

$$DL = 0.009524 \text{ ug/l}$$

$$BEC = 0.01106 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	14.45	0.0000	P	27.0	
2	<input type="checkbox"/>	0.025	0.021	41.11	0.0000	P	37.7	-15.8
3	<input type="checkbox"/>	0.050	0.047	73.33	0.0001	P	8.6	-6.7
4	<input type="checkbox"/>	0.100	0.106	146.67	0.0002	P	2.1	6.5
5	<input type="checkbox"/>	0.500	0.488	627.80	0.0007	P	5.2	-2.4
6	<input type="checkbox"/>	1.000	1.109	1388.97	0.0017	P	1.7	10.9
7	<input type="checkbox"/>	10.000	10.262	13094.95	0.0152	P	1.3	2.6
8	<input type="checkbox"/>	50.000	52.338	68343.95	0.0776	P	2.1	4.7
9	<input type="checkbox"/>	100.000	98.804	133069.95	0.1465	P	2.6	-1.2
10	<input type="checkbox"/>			113.33	0.0001	P	18.8	
11	<input type="checkbox"/>			33.33	0.0000	P	27.3	

$$y = 0.0015 * x + 1.6545E-005$$

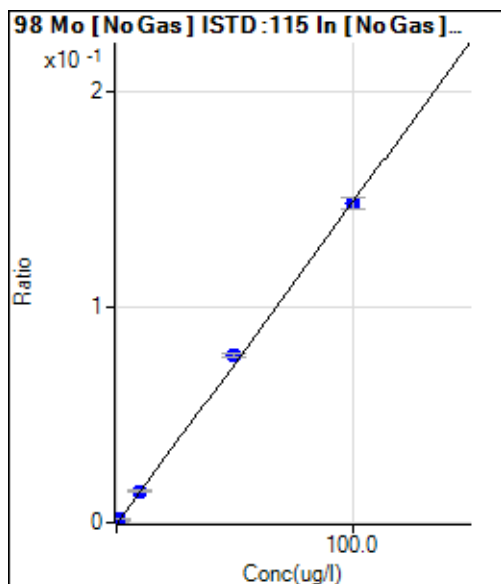
$$R = 0.9997$$

$$DL = 0.009046 \text{ ug/l}$$

$$BEC = 0.01116 \text{ ug/l}$$

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	54.58	0.0000	P	15.5	
2	<input type="checkbox"/>	0.025	0.022	177.78	0.0000	P	25.3	-13.5
3	<input type="checkbox"/>	0.050	0.056	371.75	0.0001	P	18.4	12.0
4	<input type="checkbox"/>	0.100	0.101	633.00	0.0002	P	6.7	0.6
5	<input type="checkbox"/>	0.500	0.483	2745.35	0.0007	P	3.8	-3.5
6	<input type="checkbox"/>	1.000	1.004	5710.07	0.0015	P	2.8	0.4
7	<input type="checkbox"/>	10.000	9.827	55592.93	0.0147	P	2.5	-1.7
8	<input type="checkbox"/>	50.000	51.819	290559.59	0.0775	P	2.4	3.6
9	<input type="checkbox"/>	100.000	99.108	558009.77	0.1483	P	4.0	-0.9
10	<input type="checkbox"/>			679.82	0.0002	P	9.9	
11	<input type="checkbox"/>			137.29	0.0000	P	15.6	

$$y = 0.0015 * x + 1.3912E-005$$

$$R = 0.9998$$

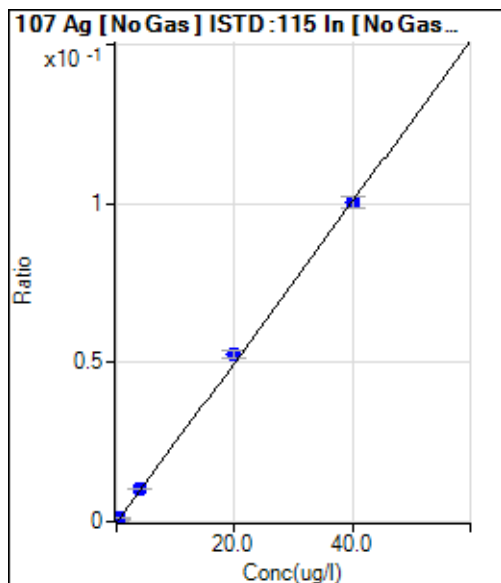
$$DL = 0.004328 \text{ ug/l}$$

$$BEC = 0.009299 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	664.28	0.0002	P	4.5	
2	<input type="checkbox"/>	0.010	0.020	849.70	0.0002	P	3.5	104.7
3	<input type="checkbox"/>	0.020	0.031	946.41	0.0002	P	4.9	55.6
4	<input type="checkbox"/>	0.040	0.051	1144.51	0.0003	P	3.2	26.3
5	<input type="checkbox"/>	0.200	0.213	2638.65	0.0007	P	0.6	6.5
6	<input type="checkbox"/>	0.400	0.438	4800.75	0.0013	P	5.1	9.4
7	<input type="checkbox"/>	4.000	3.984	38673.47	0.0102	P	3.4	-0.4
8	<input type="checkbox"/>	20.000	20.722	196805.81	0.0525	P	3.9	3.6
9	<input type="checkbox"/>	40.000	39.640	377746.25	0.1003	P	3.2	-0.9
10	<input type="checkbox"/>			3400516.54	0.8643	A	4.6	
11	<input type="checkbox"/>			2405.18	0.0006	P	5.1	

$y = 0.0025 * x + 1.6953E-004$

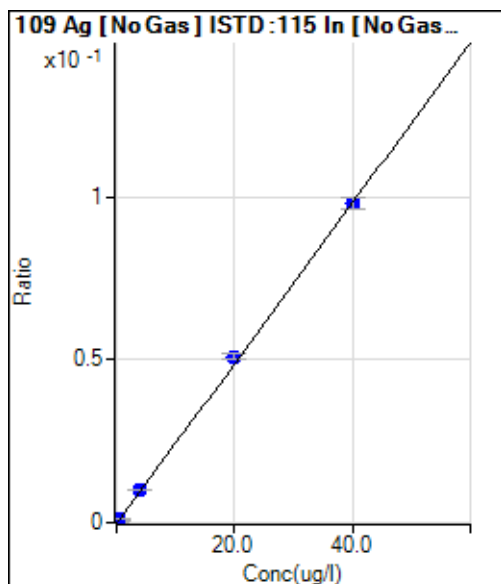
$R = 0.9998$

DL = 0.009134 ug/l

BEC = 0.06708 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	680.96	0.0002	P	5.5	
2	<input type="checkbox"/>	0.010	0.016	813.69	0.0002	P	4.8	55.3
3	<input type="checkbox"/>	0.020	0.026	905.73	0.0002	P	4.6	29.6
4	<input type="checkbox"/>	0.040	0.040	1046.46	0.0003	P	7.0	-0.6
5	<input type="checkbox"/>	0.200	0.204	2522.58	0.0007	P	1.3	1.9
6	<input type="checkbox"/>	0.400	0.402	4386.45	0.0012	P	6.1	0.6
7	<input type="checkbox"/>	4.000	3.961	37555.32	0.0099	P	3.4	-1.0
8	<input type="checkbox"/>	20.000	20.633	191282.62	0.0511	P	2.5	3.2
9	<input type="checkbox"/>	40.000	39.687	368985.50	0.0980	P	3.9	-0.8
10	<input type="checkbox"/>			3372507.61	0.8568	A	3.5	
11	<input type="checkbox"/>			2265.76	0.0006	P	4.9	

$y = 0.0025 * x + 1.7368E-004$

$R = 0.9998$

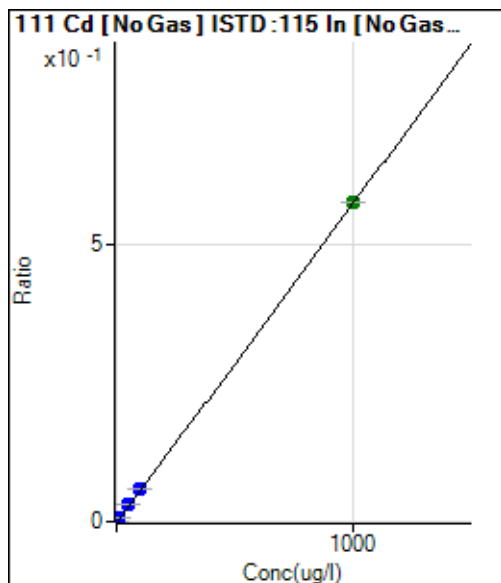
DL = 0.01168 ug/l

BEC = 0.07043 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-4.89	0.0000	P	-390.	
2	<input type="checkbox"/>	0.025	0.029	58.99	0.0000	P	84.4	15.4
3	<input type="checkbox"/>	0.050	0.054	113.99	0.0000	P	20.0	8.4
4	<input type="checkbox"/>	0.100	0.121	264.52	0.0001	P	25.5	21.5
5	<input type="checkbox"/>	0.500	0.510	1090.42	0.0003	P	2.0	2.0
6	<input type="checkbox"/>	1.000	1.059	2292.21	0.0006	P	1.2	5.9
7	<input type="checkbox"/>	10.000	10.070	21903.37	0.0058	P	3.4	0.7
8	<input type="checkbox"/>	50.000	53.414	115251.91	0.0308	P	2.4	6.8
9	<input type="checkbox"/>	100.000	101.643	220281.84	0.0585	P	4.0	1.6
10	<input type="checkbox"/>	1000.000	999.664	2265077.64	0.5757	A	0.4	0.0
11	<input type="checkbox"/>			53.87	0.0000	P	49.6	

$$y = 5.7592E-004 * x - 1.2672E-006$$

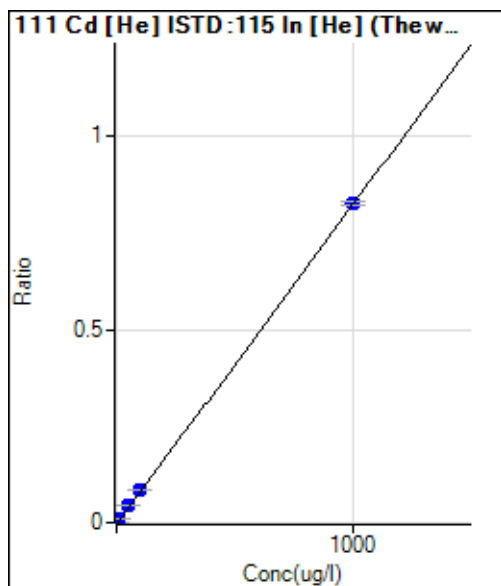
$$R = 1.0000$$

$$DL = 0.02577 \text{ ug/l}$$

$$BEC = -0.0022 \text{ ug/l}$$

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	8.00	0.0000	P	25.7	
2	<input type="checkbox"/>	0.025	0.025	25.45	0.0000	P	6.3	-1.5
3	<input type="checkbox"/>	0.050	0.052	44.55	0.0001	P	3.5	3.7
4	<input type="checkbox"/>	0.100	0.117	89.11	0.0001	P	1.7	16.9
5	<input type="checkbox"/>	0.500	0.535	383.56	0.0005	P	2.8	7.0
6	<input type="checkbox"/>	1.000	1.147	802.13	0.0010	P	3.3	14.7
7	<input type="checkbox"/>	10.000	10.675	7609.15	0.0088	P	0.2	6.8
8	<input type="checkbox"/>	50.000	55.495	40479.25	0.0460	P	1.1	11.0
9	<input type="checkbox"/>	100.000	102.797	77335.80	0.0851	P	0.5	2.8
10	<input type="checkbox"/>	1000.000	999.439	793915.27	0.8276	P	1.3	-0.1
11	<input type="checkbox"/>			24.22	0.0000	P	8.1	

$$y = 8.2804E-004 * x + 9.1526E-006$$

$$R = 1.0000$$

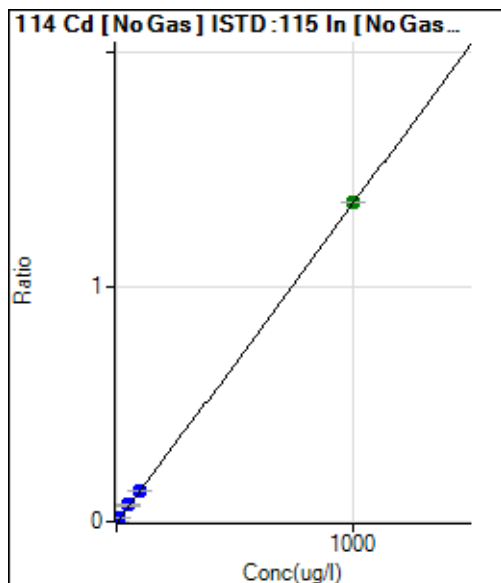
$$DL = 0.008515 \text{ ug/l}$$

$$BEC = 0.01105 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-45.76	0.0000	P	-7.8	
2	<input type="checkbox"/>	0.025	0.024	82.53	0.0000	P	65.0	-2.2
3	<input type="checkbox"/>	0.050	0.047	198.49	0.0001	P	15.8	-6.1
4	<input type="checkbox"/>	0.100	0.108	518.98	0.0001	P	5.1	7.9
5	<input type="checkbox"/>	0.500	0.494	2458.35	0.0007	P	1.5	-1.2
6	<input type="checkbox"/>	1.000	1.011	5126.49	0.0014	P	2.3	1.1
7	<input type="checkbox"/>	10.000	9.668	49540.80	0.0131	P	3.7	-3.3
8	<input type="checkbox"/>	50.000	51.571	262283.35	0.0700	P	2.7	3.1
9	<input type="checkbox"/>	100.000	97.399	497700.50	0.1322	P	3.2	-2.6
10	<input type="checkbox"/>	1000.000	1000.185	5342914.15	1.3580	A	0.4	0.0
11	<input type="checkbox"/>			66.89	0.0000	P	66.2	

$$y = 0.0014 * x - 1.1680E-005$$

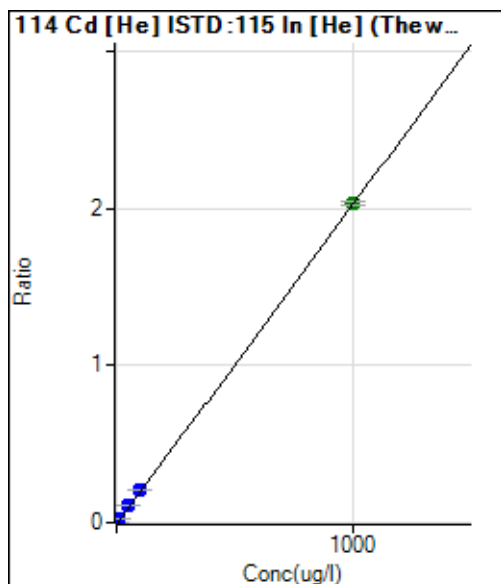
$$R = 1.0000$$

$$DL = 0.002006 \text{ ug/l}$$

$$BEC = -0.008603 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	16.89	0.0000	P	46.3	
2	<input type="checkbox"/>	0.025	0.022	55.60	0.0001	P	2.1	-11.1
3	<input type="checkbox"/>	0.050	0.044	92.97	0.0001	P	9.5	-12.1
4	<input type="checkbox"/>	0.100	0.123	225.83	0.0003	P	1.3	22.6
5	<input type="checkbox"/>	0.500	0.538	943.39	0.0011	P	3.3	7.5
6	<input type="checkbox"/>	1.000	1.156	1980.59	0.0024	P	2.8	15.6
7	<input type="checkbox"/>	10.000	10.807	18903.34	0.0220	P	0.2	8.1
8	<input type="checkbox"/>	50.000	55.968	100204.85	0.1138	P	0.5	11.9
9	<input type="checkbox"/>	100.000	103.437	190998.18	0.2102	P	0.5	3.4
10	<input type="checkbox"/>	1000.000	999.350	1948452.38	2.0311	A	1.6	-0.1
11	<input type="checkbox"/>			54.38	0.0001	P	11.9	

$$y = 0.0020 * x + 1.9350E-005$$

$$R = 1.0000$$

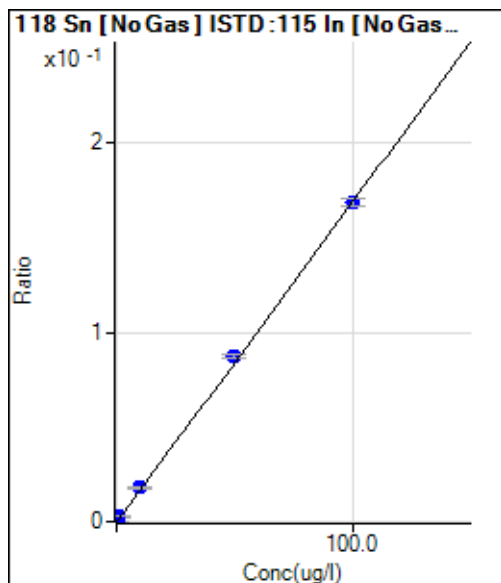
$$DL = 0.01321 \text{ ug/l}$$

$$BEC = 0.009521 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1557.01	0.0004	P	0.6	
2	<input type="checkbox"/>	0.025	0.745	6372.20	0.0017	P	1.2	2879.5
3	<input type="checkbox"/>	0.050	0.794	6641.76	0.0017	P	1.4	1488.1
4	<input type="checkbox"/>	0.100	0.840	7011.20	0.0018	P	4.8	740.2
5	<input type="checkbox"/>	0.500	0.993	7746.81	0.0021	P	5.9	98.5
6	<input type="checkbox"/>	1.000	1.735	12560.72	0.0033	P	4.3	73.5
7	<input type="checkbox"/>	10.000	10.451	68404.25	0.0181	P	5.1	4.5
8	<input type="checkbox"/>	50.000	51.273	326939.33	0.0873	P	2.1	2.5
9	<input type="checkbox"/>	100.000	99.308	634965.99	0.1687	P	2.0	-0.7
10	<input type="checkbox"/>			7380.65	0.0019	P	2.2	
11	<input type="checkbox"/>			10030.41	0.0025	P	1.0	

$y = 0.0017 * x + 3.9729E-004$

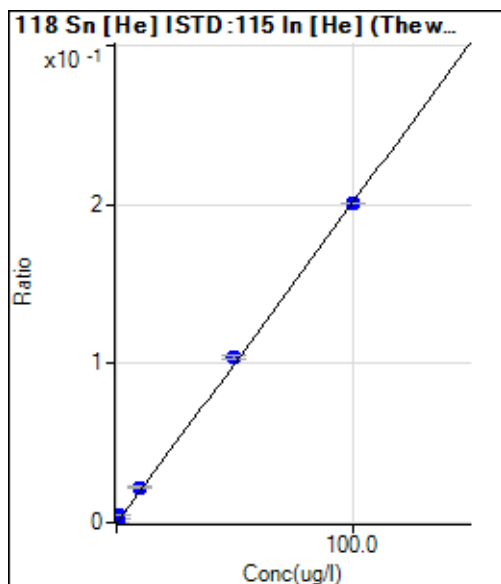
$R = 0.9999$

DL = 0.004131 ug/l

BEC = 0.2345 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	427.79	0.0005	P	7.4	
2	<input type="checkbox"/>	0.025	0.817	1842.36	0.0021	P	3.0	3167.6
3	<input type="checkbox"/>	0.050	0.852	1890.14	0.0022	P	1.5	1604.4
4	<input type="checkbox"/>	0.100	0.865	1879.02	0.0022	P	1.5	764.7
5	<input type="checkbox"/>	0.500	1.031	2180.18	0.0026	P	4.2	106.2
6	<input type="checkbox"/>	1.000	1.983	3757.47	0.0045	P	4.9	98.3
7	<input type="checkbox"/>	10.000	10.775	19119.75	0.0222	P	2.0	7.7
8	<input type="checkbox"/>	50.000	51.352	91704.95	0.1041	P	1.9	2.7
9	<input type="checkbox"/>	100.000	99.233	182380.56	0.2008	P	0.5	-0.8
10	<input type="checkbox"/>			2133.51	0.0022	P	5.5	
11	<input type="checkbox"/>			2833.64	0.0031	P	4.9	

$y = 0.0020 * x + 4.8946E-004$

$R = 0.9999$

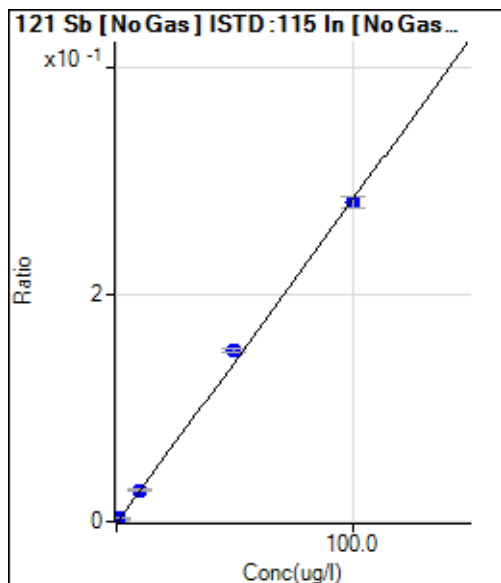
DL = 0.05373 ug/l

BEC = 0.2425 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	607.08	0.0002	P	4.4	
2	<input type="checkbox"/>	0.025	0.011	712.09	0.0002	P	2.3	-57.1
3	<input type="checkbox"/>	0.050	0.030	914.46	0.0002	P	4.8	-40.3
4	<input type="checkbox"/>	0.100	0.082	1496.23	0.0004	P	4.0	-18.0
5	<input type="checkbox"/>	0.500	0.470	5576.67	0.0015	P	0.8	-5.9
6	<input type="checkbox"/>	1.000	1.007	11380.10	0.0030	P	6.4	0.7
7	<input type="checkbox"/>	10.000	9.673	104742.90	0.0277	P	3.6	-3.3
8	<input type="checkbox"/>	50.000	52.773	564179.06	0.1506	P	2.8	5.5
9	<input type="checkbox"/>	100.000	98.646	1059172.36	0.2814	P	4.0	-1.4
10	<input type="checkbox"/>			2817.90	0.0007	P	5.7	
11	<input type="checkbox"/>			980.80	0.0002	P	6.1	

$$y = 0.0029 * x + 1.5488E-004$$

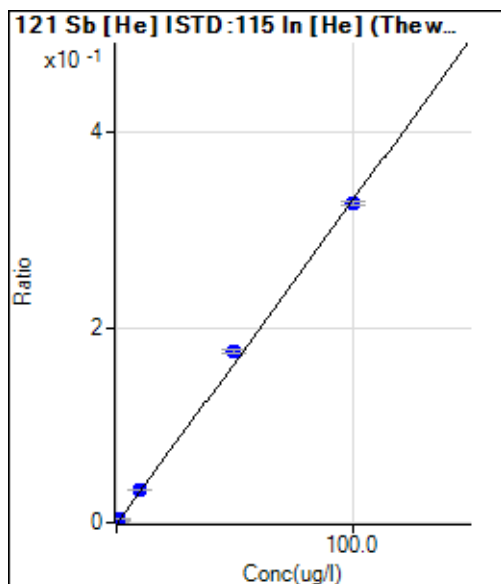
$$R = 0.9995$$

$$DL = 0.007217 \text{ ug/l}$$

$$BEC = 0.05433 \text{ ug/l}$$

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	161.35	0.0002	P	13.4	
2	<input type="checkbox"/>	0.025	0.008	183.35	0.0002	P	5.5	-66.1
3	<input type="checkbox"/>	0.050	0.030	242.03	0.0003	P	8.4	-40.9
4	<input type="checkbox"/>	0.100	0.088	401.04	0.0005	P	12.1	-11.9
5	<input type="checkbox"/>	0.500	0.480	1508.24	0.0018	P	3.2	-4.0
6	<input type="checkbox"/>	1.000	1.063	3104.66	0.0037	P	2.5	6.3
7	<input type="checkbox"/>	10.000	10.116	29041.03	0.0338	P	0.3	1.2
8	<input type="checkbox"/>	50.000	52.847	154701.47	0.1757	P	1.5	5.7
9	<input type="checkbox"/>	100.000	98.564	297469.51	0.3274	P	0.7	-1.4
10	<input type="checkbox"/>			666.42	0.0007	P	3.5	
11	<input type="checkbox"/>			263.36	0.0003	P	2.6	

$$y = 0.0033 * x + 1.8469E-004$$

$$R = 0.9995$$

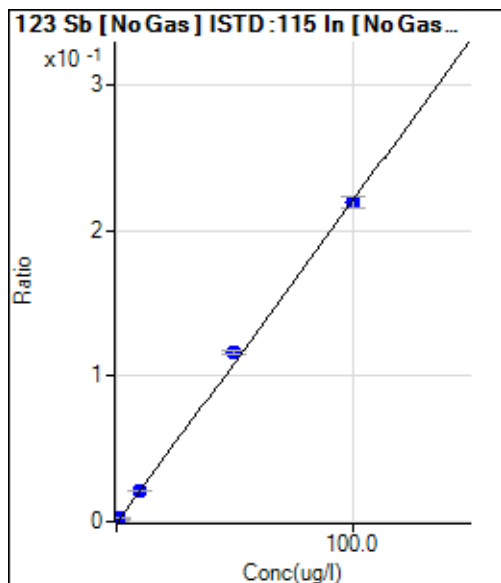
$$DL = 0.02243 \text{ ug/l}$$

$$BEC = 0.05562 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	471.06	0.0001	P	2.5	
2	<input type="checkbox"/>	0.025	0.012	565.40	0.0001	P	4.6	-51.1
3	<input type="checkbox"/>	0.050	0.034	747.10	0.0002	P	7.2	-31.5
4	<input type="checkbox"/>	0.100	0.083	1171.84	0.0003	P	1.1	-16.8
5	<input type="checkbox"/>	0.500	0.460	4247.07	0.0011	P	0.7	-8.0
6	<input type="checkbox"/>	1.000	0.996	8750.27	0.0023	P	6.3	-0.4
7	<input type="checkbox"/>	10.000	9.594	80680.25	0.0214	P	3.9	-4.1
8	<input type="checkbox"/>	50.000	52.194	433369.29	0.1157	P	2.4	4.4
9	<input type="checkbox"/>	100.000	98.944	825077.27	0.2192	P	3.1	-1.1
10	<input type="checkbox"/>			2252.08	0.0006	P	3.4	
11	<input type="checkbox"/>			735.10	0.0002	P	2.6	

$$y = 0.0022 * x + 1.2023E-004$$

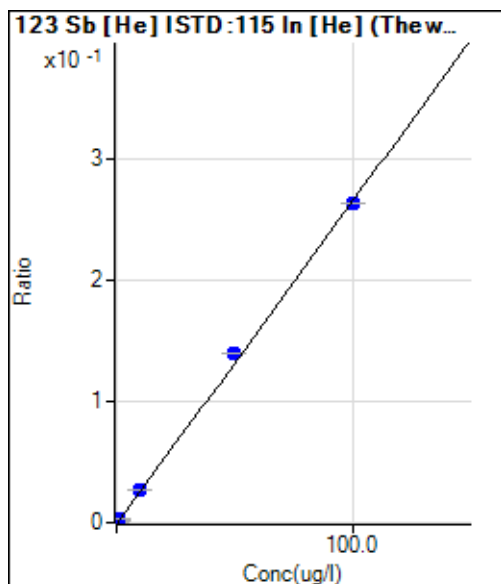
$$R = 0.9997$$

$$DL = 0.004132 \text{ ug/l}$$

$$BEC = 0.0543 \text{ ug/l}$$

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	121.01	0.0001	P	4.6	
2	<input type="checkbox"/>	0.025	0.016	155.35	0.0002	P	6.6	-37.2
3	<input type="checkbox"/>	0.050	0.032	191.69	0.0002	P	4.0	-35.8
4	<input type="checkbox"/>	0.100	0.087	311.37	0.0004	P	2.0	-13.0
5	<input type="checkbox"/>	0.500	0.484	1213.17	0.0014	P	1.4	-3.1
6	<input type="checkbox"/>	1.000	1.039	2431.13	0.0029	P	0.4	3.9
7	<input type="checkbox"/>	10.000	10.020	23090.21	0.0269	P	0.6	0.2
8	<input type="checkbox"/>	50.000	52.455	123293.08	0.1400	P	0.3	4.9
9	<input type="checkbox"/>	100.000	98.770	239336.75	0.2635	P	0.2	-1.2
10	<input type="checkbox"/>			549.07	0.0006	P	2.6	
11	<input type="checkbox"/>			203.69	0.0002	P	6.8	

$$y = 0.0027 * x + 1.3849E-004$$

$$R = 0.9996$$

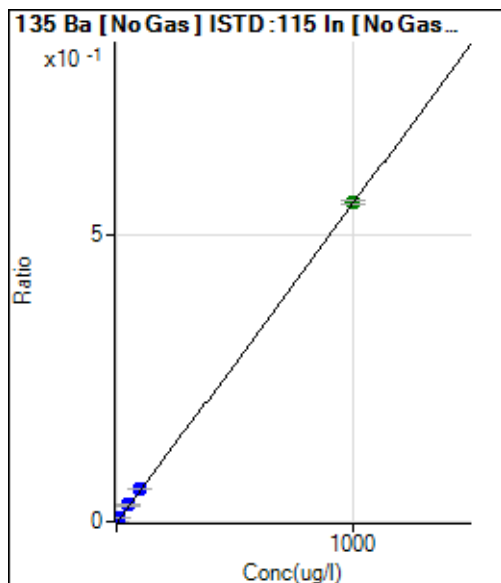
$$DL = 0.007102 \text{ ug/l}$$

$$BEC = 0.05195 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	13.31	0.0000	P	115.4	
2	<input type="checkbox"/>	0.025	0.036	89.82	0.0000	P	10.1	43.1
3	<input type="checkbox"/>	0.050	0.053	126.42	0.0000	P	10.5	6.7
4	<input type="checkbox"/>	0.100	0.102	232.88	0.0001	P	27.7	2.2
5	<input type="checkbox"/>	0.500	0.471	994.74	0.0003	P	8.6	-5.8
6	<input type="checkbox"/>	1.000	1.019	2152.57	0.0006	P	5.4	1.9
7	<input type="checkbox"/>	10.000	9.912	20910.91	0.0055	P	4.6	-0.9
8	<input type="checkbox"/>	50.000	52.368	109583.31	0.0292	P	4.6	4.7
9	<input type="checkbox"/>	100.000	100.394	211042.54	0.0560	P	1.4	0.4
10	<input type="checkbox"/>	1000.000	999.843	2195595.01	0.5582	A	1.7	0.0
11	<input type="checkbox"/>			86.49	0.0000	P	30.0	

$$y = 5.5825E-004 * x + 3.4049E-006$$

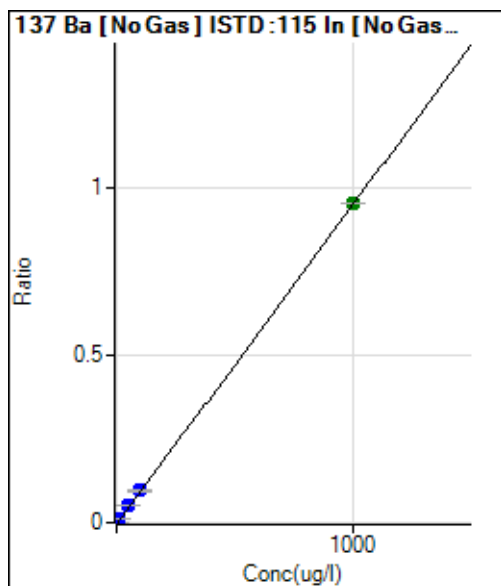
$$R = 1.0000$$

$$DL = 0.02112 \text{ ug/l}$$

$$BEC = 0.006099 \text{ ug/l}$$

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	29.94	0.0000	P	33.5	
2	<input type="checkbox"/>	0.025	0.027	126.42	0.0000	P	30.2	6.0
3	<input type="checkbox"/>	0.050	0.053	222.90	0.0001	P	22.0	6.3
4	<input type="checkbox"/>	0.100	0.101	402.55	0.0001	P	6.5	1.5
5	<input type="checkbox"/>	0.500	0.555	2002.85	0.0005	P	8.8	11.0
6	<input type="checkbox"/>	1.000	1.058	3836.27	0.0010	P	6.3	5.8
7	<input type="checkbox"/>	10.000	9.727	35118.18	0.0093	P	4.5	-2.7
8	<input type="checkbox"/>	50.000	52.546	188040.00	0.0502	P	4.4	5.1
9	<input type="checkbox"/>	100.000	100.757	362063.95	0.0962	P	4.8	0.8
10	<input type="checkbox"/>	1000.000	999.800	3757002.08	0.9548	A	0.3	0.0
11	<input type="checkbox"/>			149.70	0.0000	P	18.0	

$$y = 9.5503E-004 * x + 7.6387E-006$$

$$R = 1.0000$$

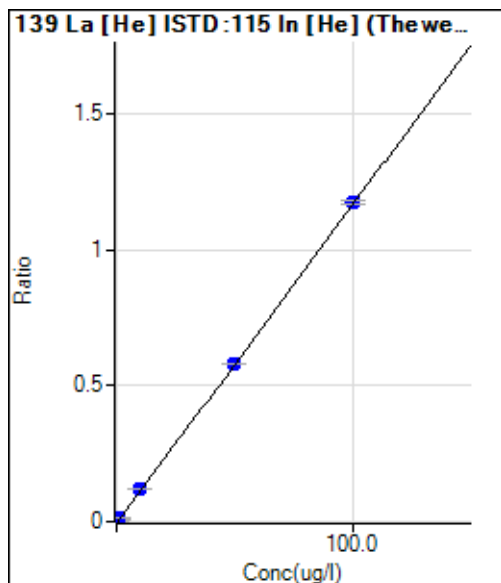
$$DL = 0.008037 \text{ ug/l}$$

$$BEC = 0.007998 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	7.78	0.0000	P	65.7	
2	<input type="checkbox"/>	0.025	0.024	248.90	0.0003	P	32.6	-4.4
3	<input type="checkbox"/>	0.050	0.052	527.79	0.0006	P	5.6	3.8
4	<input type="checkbox"/>	0.100	0.118	1171.17	0.0014	P	3.0	18.2
5	<input type="checkbox"/>	0.500	0.538	5357.74	0.0063	P	3.8	7.7
6	<input type="checkbox"/>	1.000	1.110	10877.66	0.0130	P	3.5	11.0
7	<input type="checkbox"/>	10.000	10.491	105675.23	0.1229	P	0.4	4.9
8	<input type="checkbox"/>	50.000	49.485	510521.54	0.5796	P	0.9	-1.0
9	<input type="checkbox"/>	100.000	100.207	1066320.46	1.1738	P	1.7	0.2
10	<input type="checkbox"/>			92.22	0.0001	P	22.7	
11	<input type="checkbox"/>			21.11	0.0000	P	18.7	

$$y = 0.0117 * x + 8.9049E-006$$

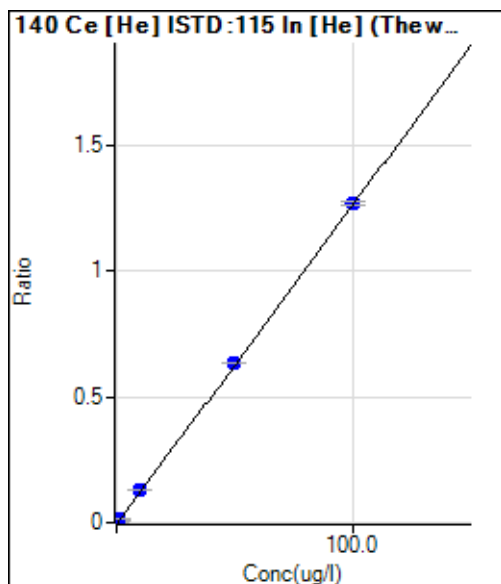
$$R = 1.0000$$

$$DL = 0.001499 \text{ ug/l}$$

$$BEC = 0.0007602 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	14.44	0.0000	P	70.3	
2	<input type="checkbox"/>	0.025	0.029	336.67	0.0004	P	8.1	17.8
3	<input type="checkbox"/>	0.050	0.051	565.57	0.0007	P	10.2	1.4
4	<input type="checkbox"/>	0.100	0.118	1275.62	0.0015	P	7.0	18.1
5	<input type="checkbox"/>	0.500	0.526	5683.41	0.0067	P	1.0	5.2
6	<input type="checkbox"/>	1.000	1.140	12126.47	0.0145	P	2.0	14.0
7	<input type="checkbox"/>	10.000	10.447	114162.22	0.1328	P	0.9	4.5
8	<input type="checkbox"/>	50.000	49.817	557547.66	0.6330	P	0.4	-0.4
9	<input type="checkbox"/>	100.000	100.045	1154851.82	1.2712	P	1.0	0.0
10	<input type="checkbox"/>			288.90	0.0003	P	17.9	
11	<input type="checkbox"/>			28.89	0.0000	P	52.0	

$$y = 0.0127 * x + 1.6505E-005$$

$$R = 1.0000$$

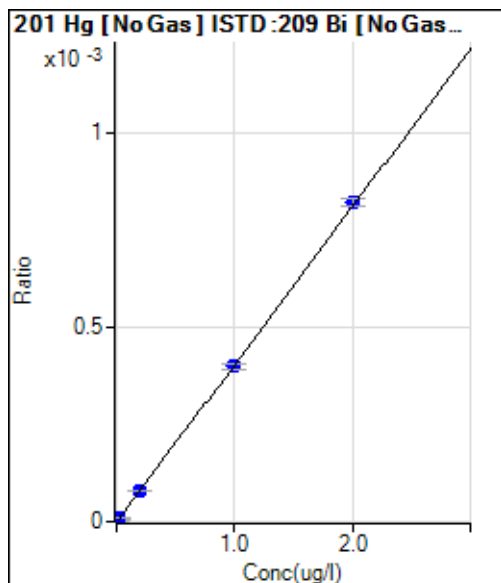
$$DL = 0.002738 \text{ ug/l}$$

$$BEC = 0.001299 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	16.33	0.0000	P	14.8	
2	<input type="checkbox"/>			12.67	0.0000	P	20.8	
3	<input type="checkbox"/>	0.001	0.000	16.00	0.0000	P	34.7	-116.5
4	<input type="checkbox"/>	0.002	-0.001	13.67	0.0000	P	34.5	-165.6
5	<input type="checkbox"/>	0.010	0.006	27.66	0.0000	P	35.3	-36.8
6	<input type="checkbox"/>	0.020	0.017	44.99	0.0000	P	15.3	-17.2
7	<input type="checkbox"/>	0.200	0.184	355.27	0.0001	P	3.6	-7.8
8	<input type="checkbox"/>	1.000	0.974	1729.43	0.0004	P	4.5	-2.6
9	<input type="checkbox"/>	2.000	2.015	3523.77	0.0008	P	3.0	0.7
10	<input type="checkbox"/>			36.66	0.0000	P	24.4	
11	<input type="checkbox"/>			23.33	0.0000	P	15.7	

$$y = 4.0638E-004 * x + 3.5210E-006$$

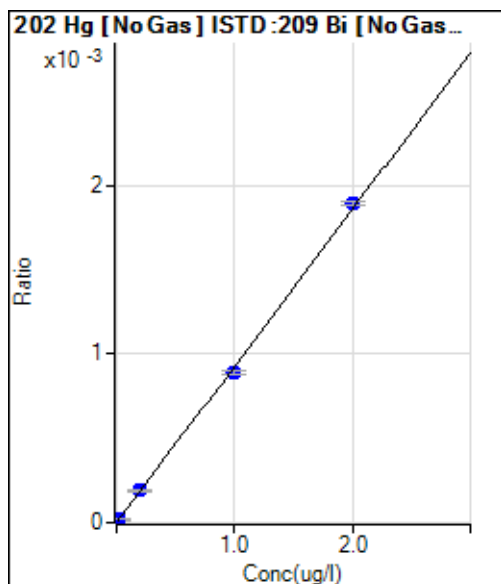
R = 0.9999

DL = 0.003856 ug/l

BEC = 0.008664 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	49.66	0.0000	P	18.4	
2	<input type="checkbox"/>			48.99	0.0000	P	9.7	
3	<input type="checkbox"/>	0.001	-0.001	46.99	0.0000	P	5.7	-155.0
4	<input type="checkbox"/>	0.002	0.001	52.66	0.0000	P	2.4	-53.9
5	<input type="checkbox"/>	0.010	0.007	79.98	0.0000	P	11.3	-26.1
6	<input type="checkbox"/>	0.020	0.017	117.64	0.0000	P	11.7	-13.6
7	<input type="checkbox"/>	0.200	0.192	855.53	0.0002	P	3.7	-4.1
8	<input type="checkbox"/>	1.000	0.951	3879.13	0.0009	P	2.7	-4.9
9	<input type="checkbox"/>	2.000	2.025	8119.19	0.0019	P	1.0	1.3
10	<input type="checkbox"/>			109.31	0.0000	P	11.6	
11	<input type="checkbox"/>			73.32	0.0000	P	10.8	

$$y = 9.2989E-004 * x + 1.0715E-005$$

R = 0.9996

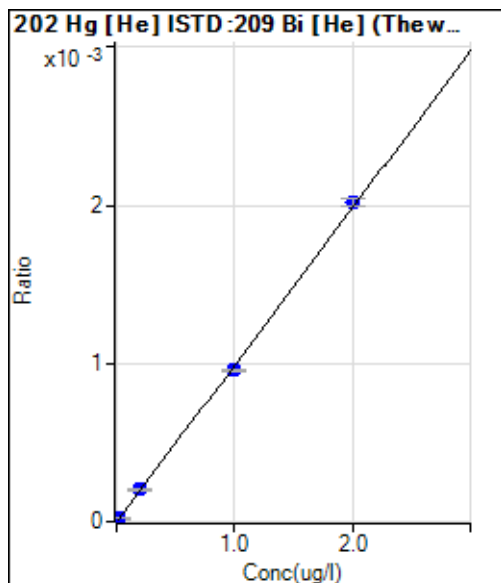
DL = 0.006374 ug/l

BEC = 0.01152 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	18.67	0.0000	P	38.3	
2	<input type="checkbox"/>			14.00	0.0000	P	6.4	
3	<input type="checkbox"/>	0.001	0.002	23.33	0.0000	P	11.6	115.2
4	<input type="checkbox"/>	0.002	-0.001	16.67	0.0000	P	33.9	-151.0
5	<input type="checkbox"/>	0.010	0.008	35.99	0.0000	P	14.5	-20.0
6	<input type="checkbox"/>	0.020	0.018	56.99	0.0000	P	17.0	-8.7
7	<input type="checkbox"/>	0.200	0.197	442.25	0.0002	P	5.6	-1.4
8	<input type="checkbox"/>	1.000	0.955	2011.42	0.0010	P	1.7	-4.5
9	<input type="checkbox"/>	2.000	2.023	4131.48	0.0020	P	2.4	1.1
10	<input type="checkbox"/>			50.32	0.0000	P	5.8	
11	<input type="checkbox"/>			28.99	0.0000	P	15.0	

$$y = 9.9401E-004 * x + 8.7383E-006$$

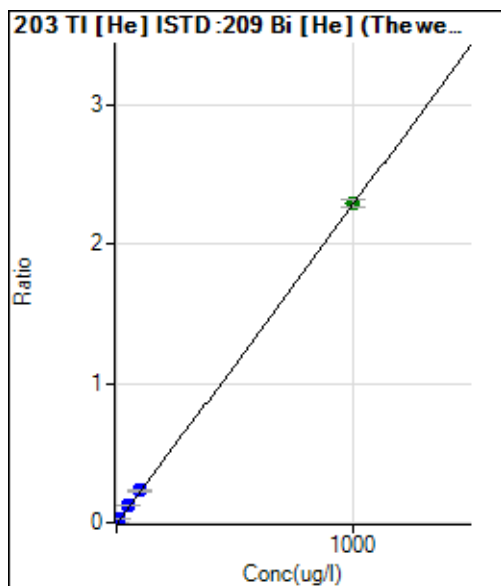
$$R = 0.9997$$

$$DL = 0.01009 \text{ ug/l}$$

$$BEC = 0.008791 \text{ ug/l}$$

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

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	772.34	0.0004	P	5.4	
2	<input type="checkbox"/>	0.025	-0.010	728.31	0.0003	P	6.8	-138.8
3	<input type="checkbox"/>	0.050	-0.017	690.30	0.0003	P	3.5	-134.2
4	<input type="checkbox"/>	0.100	0.039	971.10	0.0005	P	3.0	-60.8
5	<input type="checkbox"/>	0.500	0.408	2793.42	0.0013	P	1.1	-18.3
6	<input type="checkbox"/>	1.000	0.970	5470.66	0.0026	P	0.7	-3.0
7	<input type="checkbox"/>	10.000	9.904	49831.08	0.0231	P	2.4	-1.0
8	<input type="checkbox"/>	50.000	52.147	251673.65	0.1199	P	0.6	4.3
9	<input type="checkbox"/>	100.000	99.761	468765.42	0.2291	P	1.1	-0.2
10	<input type="checkbox"/>	1000.000	999.918	4653343.11	2.2927	A	2.5	0.0
11	<input type="checkbox"/>			1898.90	0.0009	P	5.4	

$$y = 0.0023 * x + 3.6118E-004$$

$$R = 1.0000$$

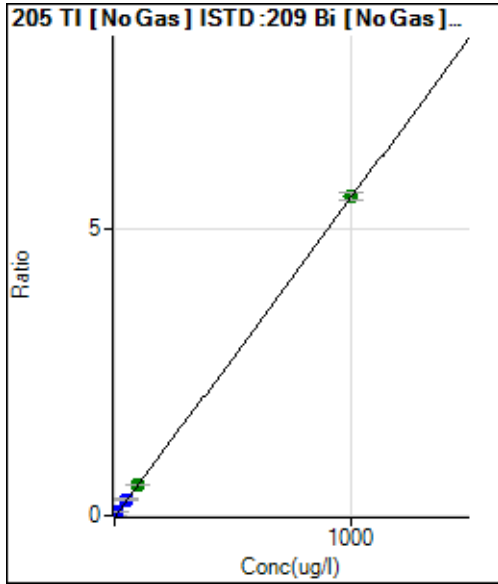
$$DL = 0.02542 \text{ ug/l}$$

$$BEC = 0.1575 \text{ ug/l}$$

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

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

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2987.03	0.0006	P	14.2	
2	<input type="checkbox"/>	0.025	-0.005	2853.66	0.0006	P	11.1	-120.7
3	<input type="checkbox"/>	0.050	0.007	3154.84	0.0007	P	5.4	-85.3
4	<input type="checkbox"/>	0.100	0.056	4358.52	0.0010	P	5.3	-43.9
5	<input type="checkbox"/>	0.500	0.411	13340.07	0.0029	P	4.1	-17.8
6	<input type="checkbox"/>	1.000	0.951	26131.25	0.0059	P	1.8	-4.9
7	<input type="checkbox"/>	10.000	9.358	238950.16	0.0528	P	0.5	-6.4
8	<input type="checkbox"/>	50.000	50.670	1225705.97	0.2829	P	4.8	1.3
9	<input type="checkbox"/>	100.000	97.500	2331785.03	0.5438	A	0.6	-2.5
10	<input type="checkbox"/>	1000.000	1000.223	23468374.10	5.5731	A	2.0	0.0
11	<input type="checkbox"/>			9793.65	0.0023	P	4.8	

$y = 0.0056 * x + 6.4432E-004$

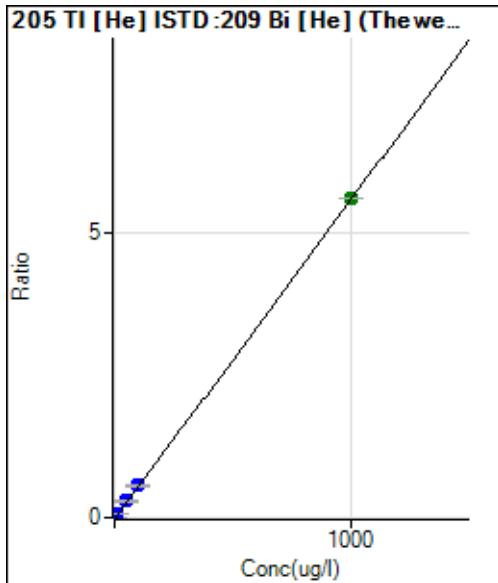
R = 1.0000

DL = 0.04934 ug/l

BEC = 0.1157 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	1935.59	0.0009	P	2.6	
2	<input type="checkbox"/>	0.025	-0.018	1728.14	0.0008	P	2.6	-172.3
3	<input type="checkbox"/>	0.050	-0.016	1752.16	0.0008	P	4.0	-131.4
4	<input type="checkbox"/>	0.100	0.028	2285.12	0.0011	P	7.1	-72.0
5	<input type="checkbox"/>	0.500	0.407	6859.87	0.0032	P	2.7	-18.6
6	<input type="checkbox"/>	1.000	0.940	13067.00	0.0062	P	1.7	-6.0
7	<input type="checkbox"/>	10.000	9.680	119117.81	0.0551	P	1.2	-3.2
8	<input type="checkbox"/>	50.000	51.309	605082.27	0.2883	P	1.3	2.6
9	<input type="checkbox"/>	100.000	100.136	1149449.21	0.5618	P	1.8	0.1
10	<input type="checkbox"/>	1000.000	999.924	11369683.53	5.6016	A	0.4	0.0
11	<input type="checkbox"/>			4618.66	0.0022	P	4.6	

$y = 0.0056 * x + 9.0534E-004$

R = 1.0000

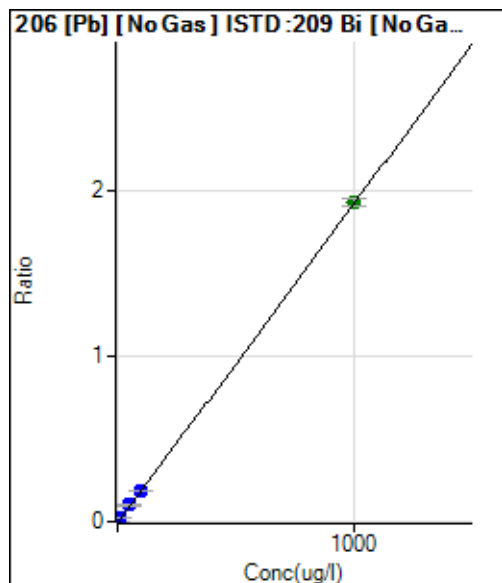
DL = 0.01251 ug/l

BEC = 0.1616 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2015.73	0.0004	P	4.3	
2	<input type="checkbox"/>	0.025	0.026	2247.98	0.0005	P	5.4	4.4
3	<input type="checkbox"/>	0.050	0.041	2361.34	0.0005	P	8.0	-18.0
4	<input type="checkbox"/>	0.100	0.094	2804.75	0.0006	P	4.2	-5.7
5	<input type="checkbox"/>	0.500	0.452	5933.58	0.0013	P	2.3	-9.5
6	<input type="checkbox"/>	1.000	1.030	10622.08	0.0024	P	2.8	3.0
7	<input type="checkbox"/>	10.000	9.397	83830.24	0.0185	P	3.3	-6.0
8	<input type="checkbox"/>	50.000	51.643	432427.68	0.0998	P	3.7	3.3
9	<input type="checkbox"/>	100.000	95.691	790728.75	0.1845	P	2.4	-4.3
10	<input type="checkbox"/>	1000.000	1000.355	8105985.64	1.9247	A	1.8	0.0
11	<input type="checkbox"/>			2514.70	0.0006	P	6.2	

$$y = 0.0019 * x + 4.3484E-004$$

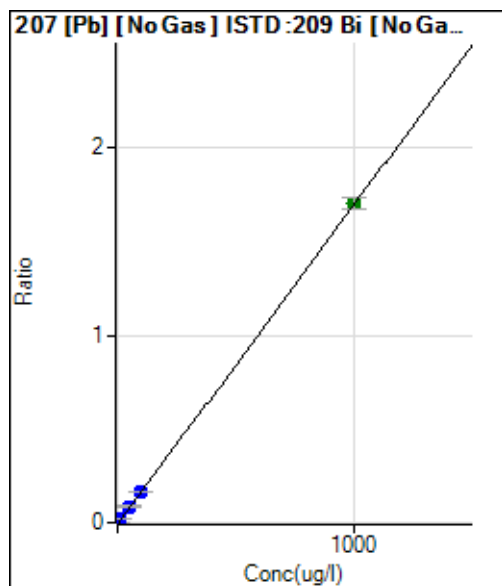
$$R = 1.0000$$

$$DL = 0.0289 \text{ ug/l}$$

$$BEC = 0.2261 \text{ ug/l}$$

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	1810.13	0.0004	P	5.0	
2	<input type="checkbox"/>	0.025	0.006	1856.81	0.0004	P	4.5	-75.8
3	<input type="checkbox"/>	0.050	0.017	1930.15	0.0004	P	7.6	-65.2
4	<input type="checkbox"/>	0.100	0.084	2424.68	0.0005	P	6.5	-16.5
5	<input type="checkbox"/>	0.500	0.430	5107.68	0.0011	P	5.1	-13.9
6	<input type="checkbox"/>	1.000	0.981	9062.02	0.0021	P	1.4	-1.9
7	<input type="checkbox"/>	10.000	9.095	71914.57	0.0159	P	1.7	-9.0
8	<input type="checkbox"/>	50.000	50.614	375280.46	0.0866	P	2.9	1.2
9	<input type="checkbox"/>	100.000	94.674	692949.26	0.1616	P	1.4	-5.3
10	<input type="checkbox"/>	1000.000	1000.511	7177672.67	1.7044	A	3.3	0.1
11	<input type="checkbox"/>			2102.40	0.0005	P	6.5	

$$y = 0.0017 * x + 3.9039E-004$$

$$R = 1.0000$$

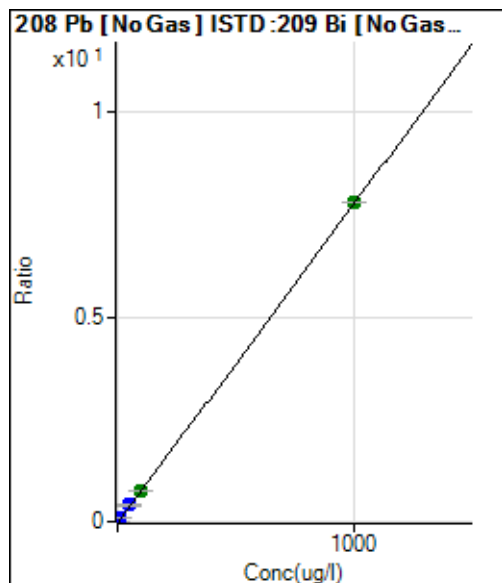
$$DL = 0.0344 \text{ ug/l}$$

$$BEC = 0.2292 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8123.24	0.0018	P	1.0	
2	<input type="checkbox"/>	0.025	0.019	8800.09	0.0019	P	4.0	-24.7
3	<input type="checkbox"/>	0.050	0.034	9268.00	0.0020	P	5.0	-32.5
4	<input type="checkbox"/>	0.100	0.092	11254.18	0.0025	P	2.3	-7.5
5	<input type="checkbox"/>	0.500	0.449	23870.84	0.0053	P	3.9	-10.2
6	<input type="checkbox"/>	1.000	1.008	42243.29	0.0096	P	1.2	0.8
7	<input type="checkbox"/>	10.000	9.342	337515.26	0.0745	P	2.2	-6.6
8	<input type="checkbox"/>	50.000	51.587	1748945.69	0.4036	P	3.9	3.2
9	<input type="checkbox"/>	100.000	96.144	3218061.56	0.7508	A	1.1	-3.9
10	<input type="checkbox"/>	1000.000	1000.313	32826746.53	7.7946	A	0.5	0.0
11	<input type="checkbox"/>			9898.19	0.0023	P	3.5	

$$y = 0.0078 * x + 0.0018$$

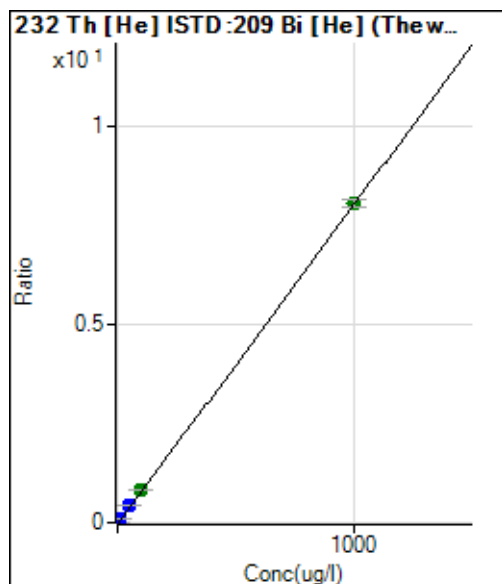
$$R = 1.0000$$

$$DL = 0.006769 \text{ ug/l}$$

$$BEC = 0.2249 \text{ ug/l}$$

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	725.65	0.0003	P	4.7	
2	<input type="checkbox"/>	0.025	0.000	725.65	0.0003	P	9.4	-100.9
3	<input type="checkbox"/>	0.050	0.007	853.71	0.0004	P	0.6	-85.4
4	<input type="checkbox"/>	0.100	0.032	1278.58	0.0006	P	2.9	-68.4
5	<input type="checkbox"/>	0.500	0.303	6001.79	0.0028	P	3.0	-39.3
6	<input type="checkbox"/>	1.000	0.778	14002.44	0.0066	P	4.2	-22.2
7	<input type="checkbox"/>	10.000	9.295	162760.36	0.0753	P	1.4	-7.0
8	<input type="checkbox"/>	50.000	51.727	876583.85	0.4177	P	0.8	3.5
9	<input type="checkbox"/>	100.000	101.736	1680391.08	0.8211	A	0.3	1.7
10	<input type="checkbox"/>	1000.000	999.747	16370055.15	8.0659	A	2.2	0.0
11	<input type="checkbox"/>			9078.16	0.0043	P	9.1	

$$y = 0.0081 * x + 3.3943E-004$$

$$R = 1.0000$$

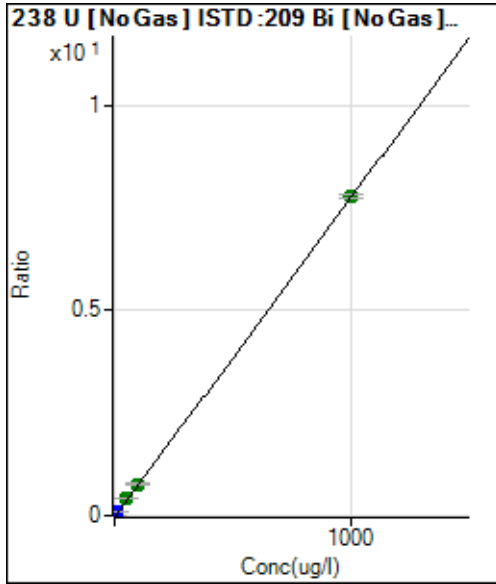
$$DL = 0.005925 \text{ ug/l}$$

$$BEC = 0.04207 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 114_QC1.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	66.66	0.0000	P	5.0	
2	<input type="checkbox"/>	0.025	0.023	895.52	0.0002	P	3.6	-8.1
3	<input type="checkbox"/>	0.050	0.053	1964.28	0.0004	P	17.5	6.2
4	<input type="checkbox"/>	0.100	0.104	3748.79	0.0008	P	4.9	4.0
5	<input type="checkbox"/>	0.500	0.476	16920.89	0.0037	P	1.9	-4.8
6	<input type="checkbox"/>	1.000	1.018	34946.17	0.0079	P	1.5	1.8
7	<input type="checkbox"/>	10.000	9.521	335828.04	0.0742	P	2.4	-4.8
8	<input type="checkbox"/>	50.000	53.826	1816694.68	0.4192	A	3.0	7.7
9	<input type="checkbox"/>	100.000	99.301	3314800.76	0.7734	A	2.1	-0.7
10	<input type="checkbox"/>	1000.000	999.883	32795894.73	7.7875	A	1.1	0.0
11	<input type="checkbox"/>			1453.46	0.0003	P	17.2	

$$y = 0.0078 * x + 1.4379E-005$$

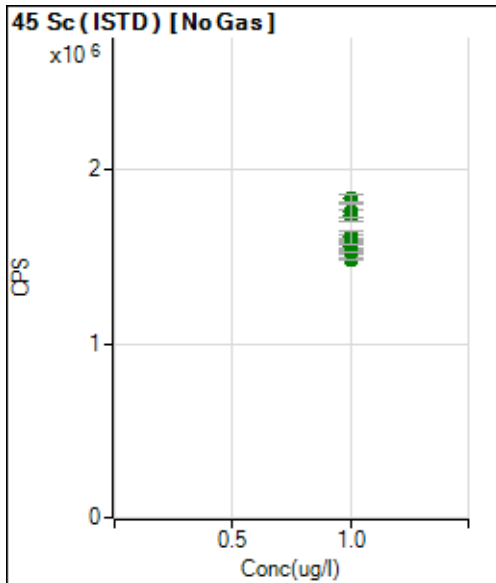
R = 1.0000

DL = 0.0002742 ug/l

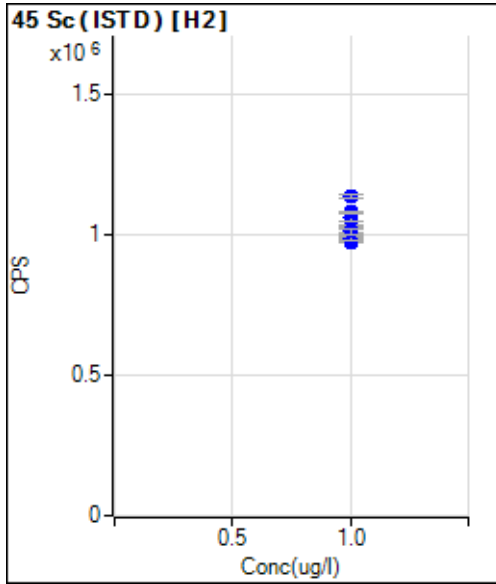
BEC = 0.001846 ug/l

Weight: 1/y

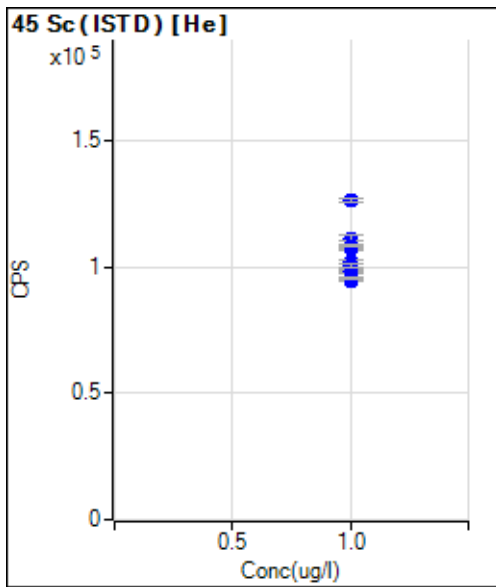
Min Conc: <None>



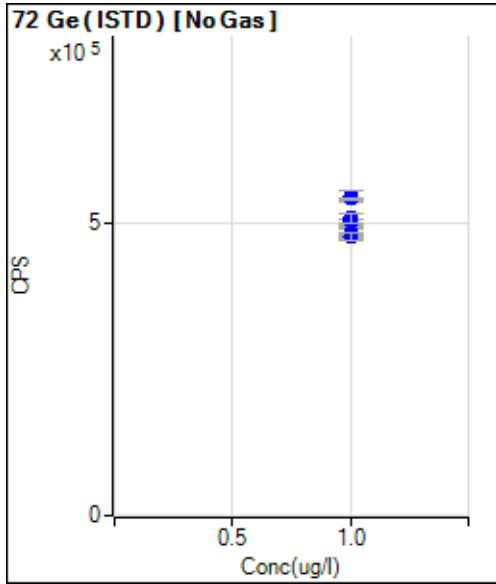
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1736505.18		A	3.4	
2	<input type="checkbox"/>	1.000		1617032.78		A	1.5	
3	<input type="checkbox"/>	1.000		1562694.60		A	1.9	
4	<input type="checkbox"/>	1.000		1557799.93		A	4.8	
5	<input type="checkbox"/>	1.000		1567929.13		A	3.7	
6	<input type="checkbox"/>	1.000		1486561.55		A	0.8	
7	<input type="checkbox"/>	1.000		1541407.95		A	1.0	
8	<input type="checkbox"/>	1.000		1528031.59		A	0.4	
9	<input type="checkbox"/>	1.000		1612149.47		A	4.7	
10	<input type="checkbox"/>	1.000		1836918.48		A	2.3	
11	<input type="checkbox"/>	1.000		1761743.07		A	4.5	



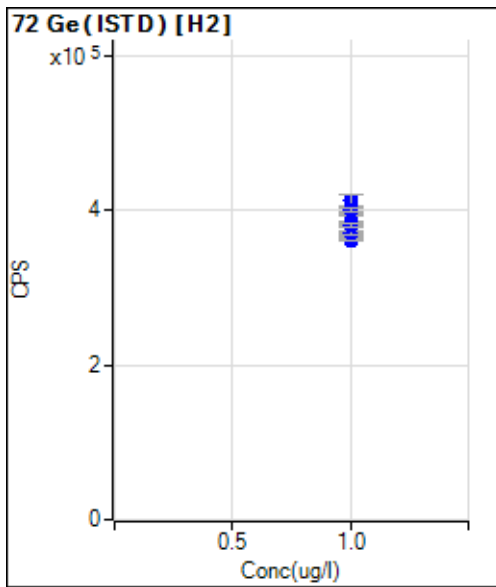
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1033530.80		P	0.7	
2	<input type="checkbox"/>	1.000		1021073.06		P	2.3	
3	<input type="checkbox"/>	1.000		986826.16		P	0.4	
4	<input type="checkbox"/>	1.000		979158.03		P	1.2	
5	<input type="checkbox"/>	1.000		977001.90		P	0.8	
6	<input type="checkbox"/>	1.000		974704.17		P	0.3	
7	<input type="checkbox"/>	1.000		984798.53		P	1.3	
8	<input type="checkbox"/>	1.000		1011171.68		P	1.8	
9	<input type="checkbox"/>	1.000		1061625.69		P	2.1	
10	<input type="checkbox"/>	1.000		1136447.92		P	1.6	
11	<input type="checkbox"/>	1.000		1078461.14		P	1.0	



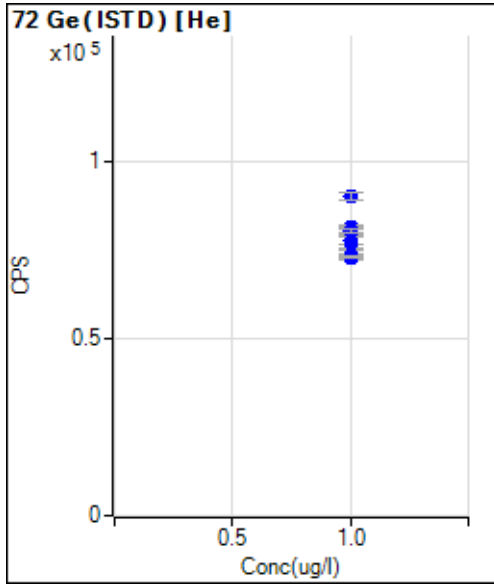
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		107106.42		P	0.6	
2	<input type="checkbox"/>	1.000		102073.46		P	1.2	
3	<input type="checkbox"/>	1.000		98993.83		P	1.9	
4	<input type="checkbox"/>	1.000		98239.20		P	1.5	
5	<input type="checkbox"/>	1.000		95537.86		P	1.6	
6	<input type="checkbox"/>	1.000		94658.72		P	0.3	
7	<input type="checkbox"/>	1.000		95934.77		P	1.0	
8	<input type="checkbox"/>	1.000		100840.72		P	1.7	
9	<input type="checkbox"/>	1.000		111636.32		P	1.4	
10	<input type="checkbox"/>	1.000		126515.77		P	1.0	
11	<input type="checkbox"/>	1.000		108544.97		P	0.8	



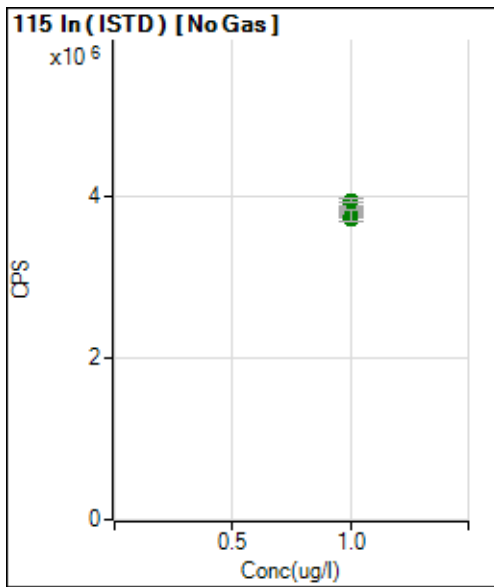
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		509788.43		P	1.8	
2	<input type="checkbox"/>	1.000		494635.52		P	2.1	
3	<input type="checkbox"/>	1.000		494430.31		P	0.6	
4	<input type="checkbox"/>	1.000		478280.66		P	1.2	
5	<input type="checkbox"/>	1.000		477565.51		P	1.5	
6	<input type="checkbox"/>	1.000		475735.06		P	1.6	
7	<input type="checkbox"/>	1.000		476043.16		P	2.7	
8	<input type="checkbox"/>	1.000		503758.77		P	1.4	
9	<input type="checkbox"/>	1.000		507074.58		P	3.5	
10	<input type="checkbox"/>	1.000		545478.75		P	3.2	
11	<input type="checkbox"/>	1.000		540885.53		P	0.6	



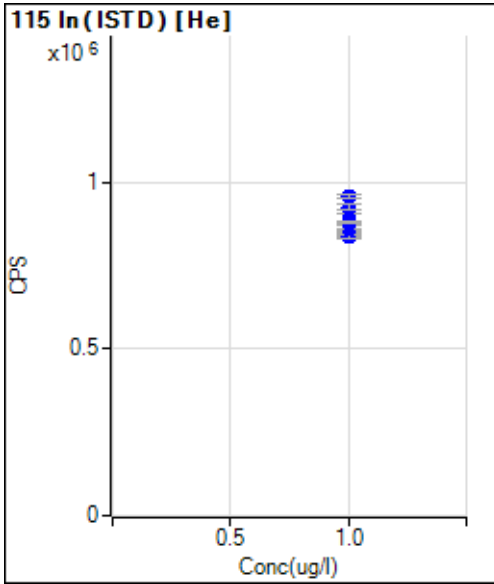
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		384019.60		P	1.4	
2	<input type="checkbox"/>	1.000		370718.45		P	1.1	
3	<input type="checkbox"/>	1.000		370239.46		P	0.6	
4	<input type="checkbox"/>	1.000		368013.77		P	1.6	
5	<input type="checkbox"/>	1.000		363414.67		P	0.9	
6	<input type="checkbox"/>	1.000		361912.21		P	1.2	
7	<input type="checkbox"/>	1.000		371243.65		P	1.3	
8	<input type="checkbox"/>	1.000		380783.89		P	0.7	
9	<input type="checkbox"/>	1.000		393657.64		P	0.4	
10	<input type="checkbox"/>	1.000		413165.89		P	3.0	
11	<input type="checkbox"/>	1.000		400612.26		P	1.7	



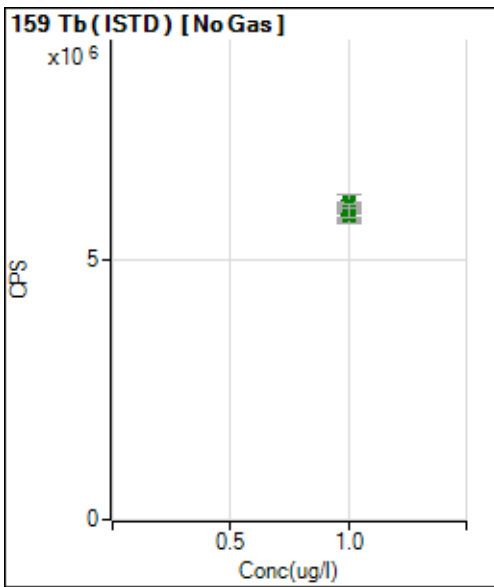
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		77495.75		P	2.9	
2	<input type="checkbox"/>	1.000		75582.66		P	0.2	
3	<input type="checkbox"/>	1.000		75444.87		P	0.5	
4	<input type="checkbox"/>	1.000		74148.50		P	1.6	
5	<input type="checkbox"/>	1.000		73050.47		P	2.2	
6	<input type="checkbox"/>	1.000		72644.25		P	1.7	
7	<input type="checkbox"/>	1.000		73126.52		P	0.4	
8	<input type="checkbox"/>	1.000		79119.16		P	1.1	
9	<input type="checkbox"/>	1.000		81642.87		P	0.4	
10	<input type="checkbox"/>	1.000		90173.33		P	1.9	
11	<input type="checkbox"/>	1.000		80454.29		P	1.8	



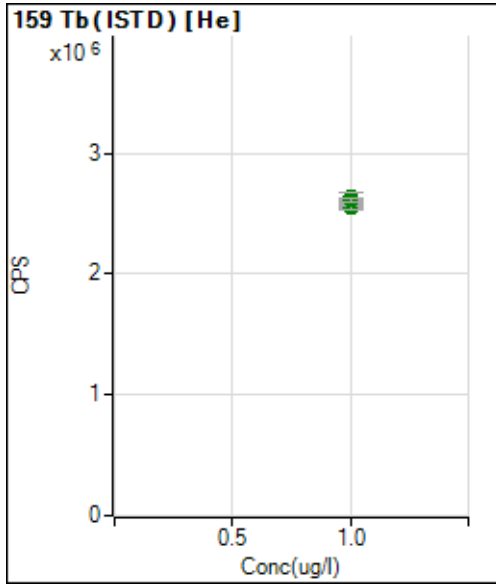
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		3918952.78		A	1.3	
2	<input type="checkbox"/>	1.000		3840439.41		A	1.7	
3	<input type="checkbox"/>	1.000		3811832.64		A	1.6	
4	<input type="checkbox"/>	1.000		3850531.01		A	0.3	
5	<input type="checkbox"/>	1.000		3729005.10		A	2.3	
6	<input type="checkbox"/>	1.000		3767353.76		A	3.6	
7	<input type="checkbox"/>	1.000		3778365.67		A	1.4	
8	<input type="checkbox"/>	1.000		3747387.87		A	2.4	
9	<input type="checkbox"/>	1.000		3766436.72		A	3.6	
10	<input type="checkbox"/>	1.000		3934493.51		A	2.4	
11	<input type="checkbox"/>	1.000		3958612.02		A	1.2	



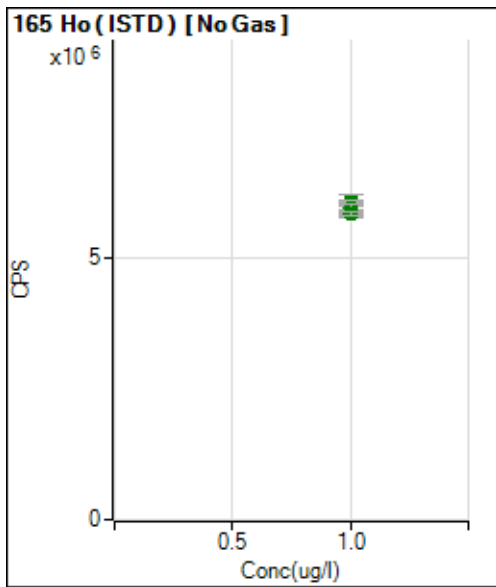
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		873894.73		P	0.5	
2	<input type="checkbox"/>	1.000		861620.92		P	0.5	
3	<input type="checkbox"/>	1.000		855489.58		P	0.5	
4	<input type="checkbox"/>	1.000		840899.07		P	0.8	
5	<input type="checkbox"/>	1.000		848384.44		P	0.8	
6	<input type="checkbox"/>	1.000		836282.65		P	1.5	
7	<input type="checkbox"/>	1.000		859910.84		P	0.2	
8	<input type="checkbox"/>	1.000		880779.48		P	0.8	
9	<input type="checkbox"/>	1.000		908457.85		P	0.2	
10	<input type="checkbox"/>	1.000		959397.58		P	1.2	
11	<input type="checkbox"/>	1.000		925722.86		P	1.7	



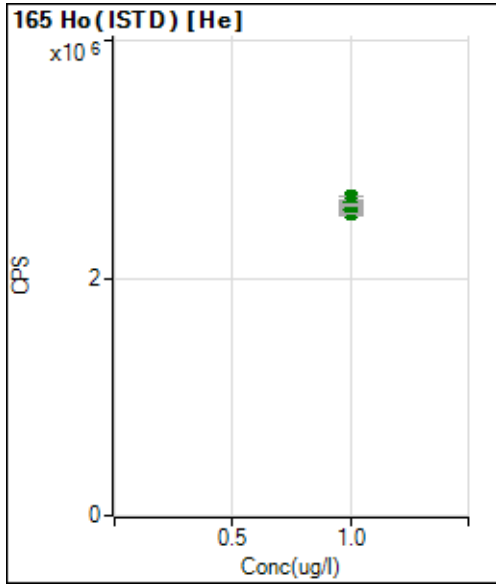
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6165415.15		A	3.3	
2	<input type="checkbox"/>	1.000		6042355.79		A	2.6	
3	<input type="checkbox"/>	1.000		5994458.41		A	1.0	
4	<input type="checkbox"/>	1.000		5982902.28		A	1.9	
5	<input type="checkbox"/>	1.000		5912583.52		A	0.4	
6	<input type="checkbox"/>	1.000		5972509.59		A	2.4	
7	<input type="checkbox"/>	1.000		5864634.48		A	1.9	
8	<input type="checkbox"/>	1.000		5844227.62		A	2.5	
9	<input type="checkbox"/>	1.000		5847543.69		A	4.9	
10	<input type="checkbox"/>	1.000		6005369.95		A	2.7	
11	<input type="checkbox"/>	1.000		5917786.28		A	3.1	



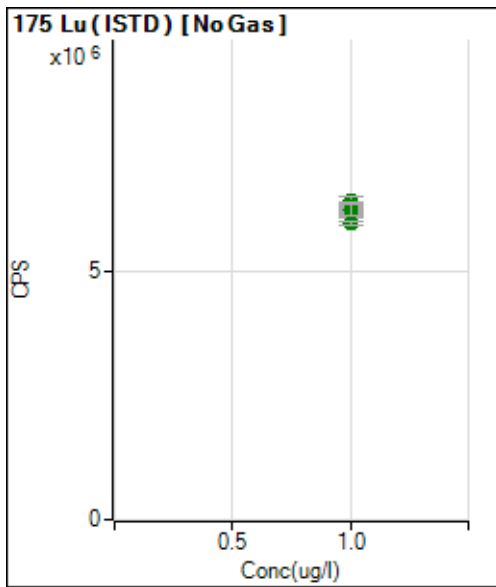
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2555985.01		A	1.1	
2	<input type="checkbox"/>	1.000		2610122.24		A	1.3	
3	<input type="checkbox"/>	1.000		2574784.80		A	1.3	
4	<input type="checkbox"/>	1.000		2542696.20		A	0.3	
5	<input type="checkbox"/>	1.000		2555733.74		A	2.1	
6	<input type="checkbox"/>	1.000		2540075.09		A	0.8	
7	<input type="checkbox"/>	1.000		2589453.35		A	1.0	
8	<input type="checkbox"/>	1.000		2548148.94		A	1.4	
9	<input type="checkbox"/>	1.000		2614395.16		A	1.3	
10	<input type="checkbox"/>	1.000		2642906.93		A	2.6	
11	<input type="checkbox"/>	1.000		2606383.45		A	1.3	



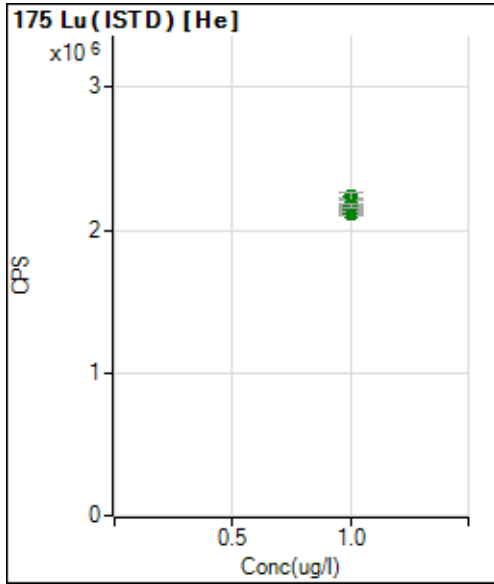
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6114987.48		A	3.4	
2	<input type="checkbox"/>	1.000		6076088.90		A	1.1	
3	<input type="checkbox"/>	1.000		6029018.91		A	2.8	
4	<input type="checkbox"/>	1.000		5855360.41		A	2.8	
5	<input type="checkbox"/>	1.000		5858408.98		A	1.3	
6	<input type="checkbox"/>	1.000		5855672.86		A	3.0	
7	<input type="checkbox"/>	1.000		5940983.95		A	1.5	
8	<input type="checkbox"/>	1.000		5880414.27		A	1.4	
9	<input type="checkbox"/>	1.000		5962239.89		A	4.0	
10	<input type="checkbox"/>	1.000		5964731.08		A	2.2	
11	<input type="checkbox"/>	1.000		5862237.71		A	1.1	



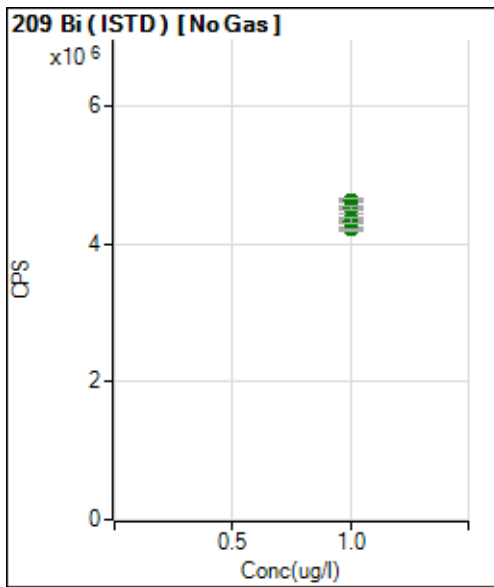
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2609340.29		A	2.0	
2	<input type="checkbox"/>	1.000		2609801.64		A	1.4	
3	<input type="checkbox"/>	1.000		2577385.37		A	0.9	
4	<input type="checkbox"/>	1.000		2539344.67		A	0.3	
5	<input type="checkbox"/>	1.000		2598359.93		A	1.5	
6	<input type="checkbox"/>	1.000		2579967.48		A	2.4	
7	<input type="checkbox"/>	1.000		2612430.20		A	0.9	
8	<input type="checkbox"/>	1.000		2614081.80		A	0.8	
9	<input type="checkbox"/>	1.000		2690682.25		A	0.2	
10	<input type="checkbox"/>	1.000		2641080.00		A	1.9	
11	<input type="checkbox"/>	1.000		2613454.09		A	0.8	



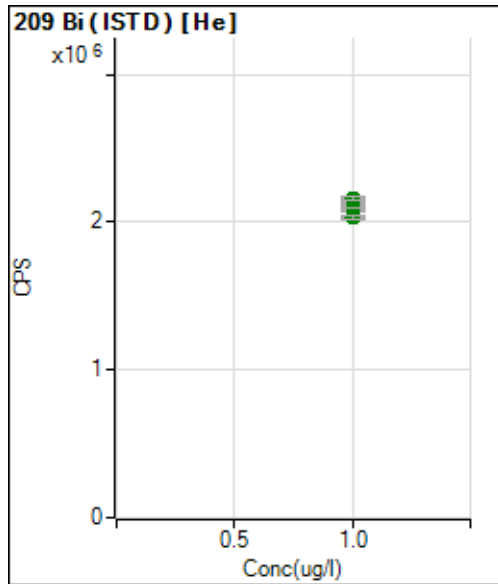
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		6443163.93		A	3.0	
2	<input type="checkbox"/>	1.000		6310631.92		A	2.4	
3	<input type="checkbox"/>	1.000		6249268.53		A	3.4	
4	<input type="checkbox"/>	1.000		6191610.09		A	0.3	
5	<input type="checkbox"/>	1.000		6259315.66		A	2.1	
6	<input type="checkbox"/>	1.000		6119304.56		A	0.1	
7	<input type="checkbox"/>	1.000		6235147.17		A	1.9	
8	<input type="checkbox"/>	1.000		6154706.99		A	2.2	
9	<input type="checkbox"/>	1.000		6147336.75		A	1.1	
10	<input type="checkbox"/>	1.000		6236215.47		A	3.8	
11	<input type="checkbox"/>	1.000		5982020.51		A	1.0	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2159994.58		A	0.7	
2	<input type="checkbox"/>	1.000		2144493.69		A	1.6	
3	<input type="checkbox"/>	1.000		2143058.14		A	1.3	
4	<input type="checkbox"/>	1.000		2120178.10		A	2.3	
5	<input type="checkbox"/>	1.000		2125923.22		A	1.5	
6	<input type="checkbox"/>	1.000		2111842.58		A	1.6	
7	<input type="checkbox"/>	1.000		2140602.20		A	1.2	
8	<input type="checkbox"/>	1.000		2140633.68		A	0.9	
9	<input type="checkbox"/>	1.000		2221651.52		A	0.5	
10	<input type="checkbox"/>	1.000		2236245.78		A	1.9	
11	<input type="checkbox"/>	1.000		2169634.63		A	0.9	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		4636324.85		A	0.6	
2	<input type="checkbox"/>	1.000		4633782.13		A	1.0	
3	<input type="checkbox"/>	1.000		4602505.51		A	3.2	
4	<input type="checkbox"/>	1.000		4551342.95		A	2.1	
5	<input type="checkbox"/>	1.000		4546426.45		A	0.6	
6	<input type="checkbox"/>	1.000		4398691.87		A	2.1	
7	<input type="checkbox"/>	1.000		4527710.71		A	1.6	
8	<input type="checkbox"/>	1.000		4334996.72		A	2.1	
9	<input type="checkbox"/>	1.000		4287250.69		A	2.5	
10	<input type="checkbox"/>	1.000		4211397.58		A	0.7	
11	<input type="checkbox"/>	1.000		4340929.51		A	2.3	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2138110.13		A	0.4	
2	<input type="checkbox"/>	1.000		2149462.28		A	1.0	
3	<input type="checkbox"/>	1.000		2143874.18		A	1.2	
4	<input type="checkbox"/>	1.000		2152635.52		A	1.5	
5	<input type="checkbox"/>	1.000		2153436.41		A	1.4	
6	<input type="checkbox"/>	1.000		2117245.31		A	0.9	
7	<input type="checkbox"/>	1.000		2160722.40		A	0.9	
8	<input type="checkbox"/>	1.000		2098927.83		A	1.0	
9	<input type="checkbox"/>	1.000		2046546.83		A	1.9	
10	<input type="checkbox"/>	1.000		2029769.42		A	0.9	
11	<input type="checkbox"/>	1.000		2097390.74		A	0.3	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 001BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:20:56
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	25211.59
Be	9	45	1	No Gas		ug/l	927.51
B	11	45	1	No Gas		ug/l	2251.07
Na	23	45	3	He		ug/l	49009.47
Mg	24	45	3	He		ug/l	5117.40
Al	27	45	1	No Gas		ug/l	103453.60
Si	28	45	2	H2		ug/l	11347.60
K	39	72	3	He		ug/l	130849.91
Ca	40	72	2	H2		ug/l	125722.69
Ti	47	72	1	No Gas		ug/l	413.75
V	51	72	1	No Gas		ug/l	-160147.95
V	51	72	3	He		ug/l	44705.44
Cr	52	72	1	No Gas		ug/l	120877.98
Cr	52	72	3	He		ug/l	1008.93
Mn	55	72	1	No Gas		ug/l	17968.66
Mn	55	72	3	He		ug/l	255.95
Fe	56	72	2	H2		ug/l	24167.50
Fe	56	72	3	He		ug/l	10138.71
Co	59	72	1	No Gas		ug/l	638.75
Ni	60	72	1	No Gas		ug/l	592.17
Ni	60	72	3	He		ug/l	108.89
Cu	63	72	1	No Gas		ug/l	2990.85
Cu	63	72	3	He		ug/l	452.59
Cu	65	72	1	No Gas		ug/l	690.96
Zn	66	72	1	No Gas		ug/l	3658.53
Zn	66	72	3	He		ug/l	363.34
As	75	72	1	No Gas		ug/l	9400.53
As	75	72	3	He		ug/l	590.27
Se	78	72	2	H2		ug/l	46.00
Br	79	72	1	No Gas		ug/l	5094.14
Br	79	72	2	H2		ug/l	2595.10
Se	82	72	1	No Gas		ug/l	616.48
Kr	84	72	1	No Gas		ug/l	16563.32
Sr	88	72	1	No Gas		ug/l	715.27
Sr	88	72	3	He		ug/l	87.78
Mo	95	115	1	No Gas		ug/l	104.44
Mo	95	115	3	He		ug/l	21.11
Mo	98	115	1	No Gas		ug/l	147.29
Ag	107	115	1	No Gas		ug/l	802.35
Ag	109	115	1	No Gas		ug/l	795.01
Cd	111	115	1	No Gas		ug/l	-22.09

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	10.89
Cd	114	115	1	No Gas		ug/l	-53.07
Cd	114	115	3	He		ug/l	23.94
Sn	118	115	1	No Gas		ug/l	1184.37
Sn	118	115	3	He		ug/l	323.34
Sb	121	115	1	No Gas		ug/l	313.04
Sb	121	115	3	He		ug/l	72.68
Sb	123	115	1	No Gas		ug/l	245.03
Sb	123	115	3	He		ug/l	67.01
Ba	135	115	1	No Gas		ug/l	73.19
Ba	137	115	1	No Gas		ug/l	96.48
La	139	115	3	He		ug/l	16.67
Ce	140	115	3	He		ug/l	43.33
Hg	201	209	1	No Gas		ug/l	22.33
Hg	202	209	1	No Gas		ug/l	67.32
Hg	202	209	3	He		ug/l	76.68
Tl	203	209	3	He		ug/l	890.39
Tl	205	209	1	No Gas		ug/l	6521.64
Tl	205	209	3	He		ug/l	2125.69
[Pb]	206	209	1	No Gas		ug/l	6045.86
[Pb]	207	209	1	No Gas		ug/l	4987.64
Pb	208	209	1	No Gas		ug/l	23568.33
Th	232	209	3	He		ug/l	675.62
U	238	209	1	No Gas		ug/l	99.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2698256.63	
Sc	45	2	H2	1419767.32	
Sc	45	3	He	156239.44	
Ge	72	1	No Gas	617501.54	
Ge	72	2	H2	422015.41	
Ge	72	3	He	95203.33	
In	115	1	No Gas	4818146.46	
In	115	3	He	974609.06	
Tb	159	1	No Gas	6272390.61	
Tb	159	3	He	2590396.82	
Ho	165	1	No Gas	6184521.44	
Ho	165	3	He	2592464.32	
Lu	175	1	No Gas	6262932.19	
Lu	175	3	He	2221658.69	
Bi	209	1	No Gas	5064695.32	
Bi	209	3	He	2029974.67	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 002BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:27:09
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	21212.57
Be	9	45	1	No Gas		ug/l	679.88
B	11	45	1	No Gas		ug/l	1994.27
Na	23	45	3	He		ug/l	47568.33
Mg	24	45	3	He		ug/l	4342.02
Al	27	45	1	No Gas		ug/l	70852.92
Si	28	45	2	H2		ug/l	10051.43
K	39	72	3	He		ug/l	124108.44
Ca	40	72	2	H2		ug/l	115776.79
Ti	47	72	1	No Gas		ug/l	293.63
V	51	72	1	No Gas		ug/l	-190979.25
V	51	72	3	He		ug/l	47072.75
Cr	52	72	1	No Gas		ug/l	126241.84
Cr	52	72	3	He		ug/l	1021.15
Mn	55	72	1	No Gas		ug/l	17592.30
Mn	55	72	3	He		ug/l	201.96
Fe	56	72	2	H2		ug/l	16505.86
Fe	56	72	3	He		ug/l	7646.40
Co	59	72	1	No Gas		ug/l	608.81
Ni	60	72	1	No Gas		ug/l	665.36
Ni	60	72	3	He		ug/l	104.44
Cu	63	72	1	No Gas		ug/l	2456.53
Cu	63	72	3	He		ug/l	464.91
Cu	65	72	1	No Gas		ug/l	724.98
Zn	66	72	1	No Gas		ug/l	789.86
Zn	66	72	3	He		ug/l	246.67
As	75	72	1	No Gas		ug/l	17398.10
As	75	72	3	He		ug/l	612.53
Se	78	72	2	H2		ug/l	45.78
Br	79	72	1	No Gas		ug/l	6761.52
Br	79	72	2	H2		ug/l	3367.05
Se	82	72	1	No Gas		ug/l	531.00
Kr	84	72	1	No Gas		ug/l	16533.38
Sr	88	72	1	No Gas		ug/l	352.64
Sr	88	72	3	He		ug/l	73.33
Mo	95	115	1	No Gas		ug/l	26.66
Mo	95	115	3	He		ug/l	7.78
Mo	98	115	1	No Gas		ug/l	29.03
Ag	107	115	1	No Gas		ug/l	786.34
Ag	109	115	1	No Gas		ug/l	799.01
Cd	111	115	1	No Gas		ug/l	17.04

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	9.33
Cd	114	115	1	No Gas		ug/l	-11.59
Cd	114	115	3	He		ug/l	18.26
Sn	118	115	1	No Gas		ug/l	1922.99
Sn	118	115	3	He		ug/l	550.02
Sb	121	115	1	No Gas		ug/l	181.35
Sb	121	115	3	He		ug/l	60.01
Sb	123	115	1	No Gas		ug/l	144.68
Sb	123	115	3	He		ug/l	38.00
Ba	135	115	1	No Gas		ug/l	36.59
Ba	137	115	1	No Gas		ug/l	66.53
La	139	115	3	He		ug/l	3.33
Ce	140	115	3	He		ug/l	5.55
Hg	201	209	1	No Gas		ug/l	19.67
Hg	202	209	1	No Gas		ug/l	139.04
Hg	202	209	3	He		ug/l	11.67
Tl	203	209	3	He		ug/l	557.57
Tl	205	209	1	No Gas		ug/l	3504.92
Tl	205	209	3	He		ug/l	1491.35
[Pb]	206	209	1	No Gas		ug/l	4713.09
[Pb]	207	209	1	No Gas		ug/l	3945.06
Pb	208	209	1	No Gas		ug/l	18430.67
Th	232	209	3	He		ug/l	322.13
U	238	209	1	No Gas		ug/l	31.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2642817.84	
Sc	45	2	H2	1368294.44	
Sc	45	3	He	154717.16	
Ge	72	1	No Gas	629070.50	
Ge	72	2	H2	422766.56	
Ge	72	3	He	95019.16	
In	115	1	No Gas	4756398.21	
In	115	3	He	991773.59	
Tb	159	1	No Gas	6286114.43	
Tb	159	3	He	2649816.39	
Ho	165	1	No Gas	6188413.87	
Ho	165	3	He	2656396.61	
Lu	175	1	No Gas	6312100.63	
Lu	175	3	He	2286413.10	
Bi	209	1	No Gas	5162032.85	
Bi	209	3	He	2076073.99	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 003BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:33:23
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	17582.53
Be	9	45	1	No Gas		ug/l	551.90
B	11	45	1	No Gas		ug/l	1709.45
Na	23	45	3	He		ug/l	47870.33
Mg	24	45	3	He		ug/l	4208.92
Al	27	45	1	No Gas		ug/l	70763.69
Si	28	45	2	H2		ug/l	9179.85
K	39	72	3	He		ug/l	122704.91
Ca	40	72	2	H2		ug/l	120101.85
Ti	47	72	1	No Gas		ug/l	357.03
V	51	72	1	No Gas		ug/l	-254893.54
V	51	72	3	He		ug/l	46578.96
Cr	52	72	1	No Gas		ug/l	120465.80
Cr	52	72	3	He		ug/l	997.82
Mn	55	72	1	No Gas		ug/l	16193.49
Mn	55	72	3	He		ug/l	190.30
Fe	56	72	2	H2		ug/l	15079.54
Fe	56	72	3	He		ug/l	7232.42
Co	59	72	1	No Gas		ug/l	652.06
Ni	60	72	1	No Gas		ug/l	688.65
Ni	60	72	3	He		ug/l	114.45
Cu	63	72	1	No Gas		ug/l	2175.71
Cu	63	72	3	He		ug/l	420.92
Cu	65	72	1	No Gas		ug/l	650.28
Zn	66	72	1	No Gas		ug/l	647.01
Zn	66	72	3	He		ug/l	191.12
As	75	72	1	No Gas		ug/l	17110.32
As	75	72	3	He		ug/l	573.93
Se	78	72	2	H2		ug/l	44.11
Br	79	72	1	No Gas		ug/l	6355.47
Br	79	72	2	H2		ug/l	3470.22
Se	82	72	1	No Gas		ug/l	464.34
Kr	84	72	1	No Gas		ug/l	16736.54
Sr	88	72	1	No Gas		ug/l	266.14
Sr	88	72	3	He		ug/l	65.56
Mo	95	115	1	No Gas		ug/l	23.33
Mo	95	115	3	He		ug/l	4.44
Mo	98	115	1	No Gas		ug/l	22.22
Ag	107	115	1	No Gas		ug/l	802.35
Ag	109	115	1	No Gas		ug/l	744.99
Cd	111	115	1	No Gas		ug/l	3.77

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	6.00
Cd	114	115	1	No Gas		ug/l	-37.89
Cd	114	115	3	He		ug/l	14.33
Sn	118	115	1	No Gas		ug/l	2285.66
Sn	118	115	3	He		ug/l	601.13
Sb	121	115	1	No Gas		ug/l	143.02
Sb	121	115	3	He		ug/l	43.67
Sb	123	115	1	No Gas		ug/l	119.34
Sb	123	115	3	He		ug/l	41.67
Ba	135	115	1	No Gas		ug/l	16.63
Ba	137	115	1	No Gas		ug/l	43.25
La	139	115	3	He		ug/l	6.67
Ce	140	115	3	He		ug/l	6.67
Hg	201	209	1	No Gas		ug/l	11.33
Hg	202	209	1	No Gas		ug/l	37.66
Hg	202	209	3	He		ug/l	11.00
Tl	203	209	3	He		ug/l	396.83
Tl	205	209	1	No Gas		ug/l	2225.76
Tl	205	209	3	He		ug/l	975.76
[Pb]	206	209	1	No Gas		ug/l	4099.54
[Pb]	207	209	1	No Gas		ug/l	3430.46
Pb	208	209	1	No Gas		ug/l	15950.48
Th	232	209	3	He		ug/l	247.43
U	238	209	1	No Gas		ug/l	32.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2669776.40	
Sc	45	2	H2	1390428.84	
Sc	45	3	He	154341.40	
Ge	72	1	No Gas	622332.25	
Ge	72	2	H2	433846.77	
Ge	72	3	He	95713.46	
In	115	1	No Gas	4932606.34	
In	115	3	He	1009565.49	
Tb	159	1	No Gas	6364621.27	
Tb	159	3	He	2758010.44	
Ho	165	1	No Gas	6223279.31	
Ho	165	3	He	2730770.54	
Lu	175	1	No Gas	6421106.92	
Lu	175	3	He	2329824.87	
Bi	209	1	No Gas	5319923.73	
Bi	209	3	He	2128290.86	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 004BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:39:36
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	15503.44
Be	9	45	1	No Gas		ug/l	486.91
B	11	45	1	No Gas		ug/l	1566.71
Na	23	45	3	He		ug/l	48163.46
Mg	24	45	3	He		ug/l	3956.01
Al	27	45	1	No Gas		ug/l	58240.26
Si	28	45	2	H2		ug/l	8917.56
K	39	72	3	He		ug/l	118095.75
Ca	40	72	2	H2		ug/l	121582.46
Ti	47	72	1	No Gas		ug/l	281.95
V	51	72	1	No Gas		ug/l	-200620.31
V	51	72	3	He		ug/l	44128.17
Cr	52	72	1	No Gas		ug/l	115674.65
Cr	52	72	3	He		ug/l	965.59
Mn	55	72	1	No Gas		ug/l	15653.98
Mn	55	72	3	He		ug/l	183.97
Fe	56	72	2	H2		ug/l	15066.20
Fe	56	72	3	He		ug/l	7297.51
Co	59	72	1	No Gas		ug/l	568.89
Ni	60	72	1	No Gas		ug/l	638.75
Ni	60	72	3	He		ug/l	102.22
Cu	63	72	1	No Gas		ug/l	2101.00
Cu	63	72	3	He		ug/l	438.92
Cu	65	72	1	No Gas		ug/l	662.28
Zn	66	72	1	No Gas		ug/l	687.01
Zn	66	72	3	He		ug/l	186.67
As	75	72	1	No Gas		ug/l	15538.31
As	75	72	3	He		ug/l	521.27
Se	78	72	2	H2		ug/l	43.67
Br	79	72	1	No Gas		ug/l	6937.92
Br	79	72	2	H2		ug/l	3626.63
Se	82	72	1	No Gas		ug/l	586.87
Kr	84	72	1	No Gas		ug/l	17922.28
Sr	88	72	1	No Gas		ug/l	326.02
Sr	88	72	3	He		ug/l	66.67
Mo	95	115	1	No Gas		ug/l	34.44
Mo	95	115	3	He		ug/l	5.56
Mo	98	115	1	No Gas		ug/l	36.32
Ag	107	115	1	No Gas		ug/l	842.36
Ag	109	115	1	No Gas		ug/l	815.69
Cd	111	115	1	No Gas		ug/l	44.25

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	8.33
Cd	114	115	1	No Gas		ug/l	-15.91
Cd	114	115	3	He		ug/l	15.07
Sn	118	115	1	No Gas		ug/l	2488.64
Sn	118	115	3	He		ug/l	590.02
Sb	121	115	1	No Gas		ug/l	154.69
Sb	121	115	3	He		ug/l	37.67
Sb	123	115	1	No Gas		ug/l	111.68
Sb	123	115	3	He		ug/l	32.67
Ba	135	115	1	No Gas		ug/l	33.27
Ba	137	115	1	No Gas		ug/l	53.23
La	139	115	3	He		ug/l	12.22
Ce	140	115	3	He		ug/l	11.11
Hg	201	209	1	No Gas		ug/l	13.00
Hg	202	209	1	No Gas		ug/l	33.66
Hg	202	209	3	He		ug/l	9.00
Tl	203	209	3	He		ug/l	346.81
Tl	205	209	1	No Gas		ug/l	2057.95
Tl	205	209	3	He		ug/l	926.40
[Pb]	206	209	1	No Gas		ug/l	3857.25
[Pb]	207	209	1	No Gas		ug/l	3095.94
Pb	208	209	1	No Gas		ug/l	14807.77
Th	232	209	3	He		ug/l	202.08
U	238	209	1	No Gas		ug/l	37.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2673368.28	
Sc	45	2	H2	1434431.83	
Sc	45	3	He	157036.39	
Ge	72	1	No Gas	644998.39	
Ge	72	2	H2	454263.81	
Ge	72	3	He	100514.44	
In	115	1	No Gas	5046922.17	
In	115	3	He	1060114.53	
Tb	159	1	No Gas	6409701.40	
Tb	159	3	He	2780825.86	
Ho	165	1	No Gas	6239148.30	
Ho	165	3	He	2783520.09	
Lu	175	1	No Gas	6407397.75	
Lu	175	3	He	2418914.85	
Bi	209	1	No Gas	5233221.66	
Bi	209	3	He	2209734.96	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 005BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:45:49
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		ug/l	13817.14
Be	9	45	1	No Gas		ug/l	480.91
B	11	45	1	No Gas		ug/l	1479.33
Na	23	45	3	He		ug/l	47290.76
Mg	24	45	3	He		ug/l	3114.16
Al	27	45	1	No Gas		ug/l	35967.43
Si	28	45	2	H2		ug/l	9324.01
K	39	72	3	He		ug/l	118040.88
Ca	40	72	2	H2		ug/l	115366.48
Ti	47	72	1	No Gas		ug/l	278.62
V	51	72	1	No Gas		ug/l	-216825.06
V	51	72	3	He		ug/l	46136.40
Cr	52	72	1	No Gas		ug/l	115579.99
Cr	52	72	3	He		ug/l	996.71
Mn	55	72	1	No Gas		ug/l	15817.12
Mn	55	72	3	He		ug/l	182.30
Fe	56	72	2	H2		ug/l	15343.45
Fe	56	72	3	He		ug/l	7063.81
Co	59	72	1	No Gas		ug/l	509.00
Ni	60	72	1	No Gas		ug/l	615.46
Ni	60	72	3	He		ug/l	135.56
Cu	63	72	1	No Gas		ug/l	2026.96
Cu	63	72	3	He		ug/l	422.25
Cu	65	72	1	No Gas		ug/l	608.26
Zn	66	72	1	No Gas		ug/l	523.87
Zn	66	72	3	He		ug/l	172.22
As	75	72	1	No Gas		ug/l	16760.12
As	75	72	3	He		ug/l	536.87
Se	78	72	2	H2		ug/l	40.45
Br	79	72	1	No Gas		ug/l	5566.72
Br	79	72	2	H2		ug/l	3100.87
Se	82	72	1	No Gas		ug/l	582.60
Kr	84	72	1	No Gas		ug/l	17236.19
Sr	88	72	1	No Gas		ug/l	306.06
Sr	88	72	3	He		ug/l	57.78
Mo	95	115	1	No Gas		ug/l	20.00
Mo	95	115	3	He		ug/l	4.44
Mo	98	115	1	No Gas		ug/l	21.25
Ag	107	115	1	No Gas		ug/l	836.36
Ag	109	115	1	No Gas		ug/l	789.67
Cd	111	115	1	No Gas		ug/l	14.03

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	6.22
Cd	114	115	1	No Gas		ug/l	-30.77
Cd	114	115	3	He		ug/l	10.06
Sn	118	115	1	No Gas		ug/l	2528.58
Sn	118	115	3	He		ug/l	676.69
Sb	121	115	1	No Gas		ug/l	193.70
Sb	121	115	3	He		ug/l	42.00
Sb	123	115	1	No Gas		ug/l	113.34
Sb	123	115	3	He		ug/l	40.33
Ba	135	115	1	No Gas		ug/l	13.31
Ba	137	115	1	No Gas		ug/l	46.57
La	139	115	3	He		ug/l	8.89
Ce	140	115	3	He		ug/l	6.67
Hg	201	209	1	No Gas		ug/l	7.00
Hg	202	209	1	No Gas		ug/l	34.99
Hg	202	209	3	He		ug/l	9.67
Tl	203	209	3	He		ug/l	334.14
Tl	205	209	1	No Gas		ug/l	1633.44
Tl	205	209	3	He		ug/l	869.71
[Pb]	206	209	1	No Gas		ug/l	3470.47
[Pb]	207	209	1	No Gas		ug/l	2778.08
Pb	208	209	1	No Gas		ug/l	13140.39
Th	232	209	3	He		ug/l	175.41
U	238	209	1	No Gas		ug/l	33.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2695147.85	
Sc	45	2	H2	1419724.52	
Sc	45	3	He	155773.37	
Ge	72	1	No Gas	650075.10	
Ge	72	2	H2	451140.13	
Ge	72	3	He	100900.31	
In	115	1	No Gas	5103206.78	
In	115	3	He	1047264.82	
Tb	159	1	No Gas	6518127.64	
Tb	159	3	He	2817831.33	
Ho	165	1	No Gas	6296497.21	
Ho	165	3	He	2814722.23	
Lu	175	1	No Gas	6392775.83	
Lu	175	3	He	2374250.55	
Bi	209	1	No Gas	5237633.01	
Bi	209	3	He	2206224.57	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 006BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:52:03
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		ug/l	12639.67
Be	9	45	1	No Gas		ug/l	445.25
B	11	45	1	No Gas		ug/l	1455.33
Na	23	45	3	He		ug/l	47667.46
Mg	24	45	3	He		ug/l	3287.18
Al	27	45	1	No Gas		ug/l	36644.71
Si	28	45	2	H2		ug/l	8690.03
K	39	72	3	He		ug/l	117297.23
Ca	40	72	2	H2		ug/l	115936.16
Ti	47	72	1	No Gas		ug/l	228.57
V	51	72	1	No Gas		ug/l	-58807.35
V	51	72	3	He		ug/l	44651.95
Cr	52	72	1	No Gas		ug/l	113913.94
Cr	52	72	3	He		ug/l	876.70
Mn	55	72	1	No Gas		ug/l	15360.93
Mn	55	72	3	He		ug/l	165.30
Fe	56	72	2	H2		ug/l	14929.25
Fe	56	72	3	He		ug/l	7065.48
Co	59	72	1	No Gas		ug/l	555.58
Ni	60	72	1	No Gas		ug/l	632.10
Ni	60	72	3	He		ug/l	151.11
Cu	63	72	1	No Gas		ug/l	1938.91
Cu	63	72	3	He		ug/l	446.25
Cu	65	72	1	No Gas		ug/l	606.26
Zn	66	72	1	No Gas		ug/l	394.08
Zn	66	72	3	He		ug/l	136.67
As	75	72	1	No Gas		ug/l	21937.61
As	75	72	3	He		ug/l	559.33
Se	78	72	2	H2		ug/l	43.44
Br	79	72	1	No Gas		ug/l	5470.23
Br	79	72	2	H2		ug/l	2974.42
Se	82	72	1	No Gas		ug/l	720.88
Kr	84	72	1	No Gas		ug/l	17829.00
Sr	88	72	1	No Gas		ug/l	276.12
Sr	88	72	3	He		ug/l	63.33
Mo	95	115	1	No Gas		ug/l	14.44
Mo	95	115	3	He		ug/l	8.89
Mo	98	115	1	No Gas		ug/l	14.58
Ag	107	115	1	No Gas		ug/l	859.04
Ag	109	115	1	No Gas		ug/l	822.35
Cd	111	115	1	No Gas		ug/l	-5.61

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	7.67
Cd	114	115	1	No Gas		ug/l	-73.49
Cd	114	115	3	He		ug/l	16.99
Sn	118	115	1	No Gas		ug/l	2358.86
Sn	118	115	3	He		ug/l	630.02
Sb	121	115	1	No Gas		ug/l	121.34
Sb	121	115	3	He		ug/l	39.33
Sb	123	115	1	No Gas		ug/l	110.01
Sb	123	115	3	He		ug/l	30.67
Ba	135	115	1	No Gas		ug/l	16.63
Ba	137	115	1	No Gas		ug/l	56.55
La	139	115	3	He		ug/l	11.11
Ce	140	115	3	He		ug/l	7.78
Hg	201	209	1	No Gas		ug/l	10.67
Hg	202	209	1	No Gas		ug/l	29.66
Hg	202	209	3	He		ug/l	10.67
Tl	203	209	3	He		ug/l	354.15
Tl	205	209	1	No Gas		ug/l	1387.86
Tl	205	209	3	He		ug/l	841.70
[Pb]	206	209	1	No Gas		ug/l	3372.67
[Pb]	207	209	1	No Gas		ug/l	2759.19
Pb	208	209	1	No Gas		ug/l	12822.48
Th	232	209	3	He		ug/l	161.40
U	238	209	1	No Gas		ug/l	30.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2696755.70	
Sc	45	2	H2	1410175.67	
Sc	45	3	He	157747.51	
Ge	72	1	No Gas	645266.64	
Ge	72	2	H2	452895.18	
Ge	72	3	He	98068.86	
In	115	1	No Gas	5045664.26	
In	115	3	He	1034182.48	
Tb	159	1	No Gas	6377062.04	
Tb	159	3	He	2812783.91	
Ho	165	1	No Gas	6258546.30	
Ho	165	3	He	2797672.13	
Lu	175	1	No Gas	6385012.39	
Lu	175	3	He	2365198.66	
Bi	209	1	No Gas	5275908.87	
Bi	209	3	He	2183047.93	

ICPMS207-B Analytical Data

Sample Name Cal Blk
File Name 007CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 12:58:18
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	12301.91
Be	9	45	1	No Gas	0.000	ug/l	463.25
B	11	45	1	No Gas	0.000	ug/l	1392.63
Na	23	45	3	He	0.000	ug/l	45478.52
Mg	24	45	3	He	0.000	ug/l	3144.10
Al	27	45	1	No Gas	0.000	ug/l	46083.81
Si	28	45	2	H2	0.000	ug/l	8421.09
K	39	72	3	He	0.000	ug/l	119171.08
Ca	40	72	2	H2	0.000	ug/l	115921.07
Ti	47	72	1	No Gas	0.000	ug/l	273.61
V	51	72	1	No Gas	0.000	ug/l	-114716.85
V	51	72	3	He	0.000	ug/l	46352.84
Cr	52	72	1	No Gas	0.000	ug/l	118446.65
Cr	52	72	3	He	0.000	ug/l	962.26
Mn	55	72	1	No Gas	0.000	ug/l	16120.27
Mn	55	72	3	He	0.000	ug/l	163.97
Fe	56	72	2	H2	0.000	ug/l	14658.71
Fe	56	72	3	He	0.000	ug/l	6906.92
Co	59	72	1	No Gas	0.000	ug/l	568.89
Ni	60	72	1	No Gas	0.000	ug/l	698.63
Ni	60	72	3	He	0.000	ug/l	120.00
Cu	63	72	1	No Gas	0.000	ug/l	1936.24
Cu	63	72	3	He	0.000	ug/l	427.25
Cu	65	72	1	No Gas	0.000	ug/l	627.60
Zn	66	72	1	No Gas	0.000	ug/l	450.32
Zn	66	72	3	He	0.000	ug/l	121.11
As	75	72	1	No Gas	0.000	ug/l	24959.70
As	75	72	3	He	0.000	ug/l	573.20
Se	78	72	2	H2	0.000	ug/l	39.44
Br	79	72	1	No Gas	0.000	ug/l	5237.26
Br	79	72	2	H2	0.000	ug/l	2561.82
Se	82	72	1	No Gas	0.000	ug/l	672.74
Kr	84	72	1	No Gas		ug/l	17879.00
Sr	88	72	1	No Gas	0.000	ug/l	262.82
Sr	88	72	3	He	0.000	ug/l	52.22
Mo	95	115	1	No Gas	0.000	ug/l	30.00
Mo	95	115	3	He	0.000	ug/l	7.78
Mo	98	115	1	No Gas	0.000	ug/l	27.91
Ag	107	115	1	No Gas	0.000	ug/l	864.38
Ag	109	115	1	No Gas	0.000	ug/l	859.04
Cd	111	115	1	No Gas	0.000	ug/l	-7.39

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	5.00
Cd	114	115	1	No Gas	0.000	ug/l	-72.25
Cd	114	115	3	He	0.000	ug/l	13.01
Sn	118	115	1	No Gas	0.000	ug/l	2605.08
Sn	118	115	3	He	0.000	ug/l	580.02
Sb	121	115	1	No Gas	0.000	ug/l	130.01
Sb	121	115	3	He	0.000	ug/l	34.33
Sb	123	115	1	No Gas	0.000	ug/l	98.68
Sb	123	115	3	He	0.000	ug/l	27.00
Ba	135	115	1	No Gas	0.000	ug/l	13.31
Ba	137	115	1	No Gas	0.000	ug/l	29.94
La	139	115	3	He	0.000	ug/l	14.44
Ce	140	115	3	He	0.000	ug/l	7.78
Hg	201	209	1	No Gas	0.000	ug/l	12.00
Hg	202	209	1	No Gas	0.000	ug/l	18.33
Hg	202	209	3	He	0.000	ug/l	8.00
Tl	203	209	3	He	0.000	ug/l	326.14
Tl	205	209	1	No Gas	0.000	ug/l	1473.43
Tl	205	209	3	He	0.000	ug/l	740.99
[Pb]	206	209	1	No Gas	0.000	ug/l	3572.73
[Pb]	207	209	1	No Gas	0.000	ug/l	2870.32
Pb	208	209	1	No Gas	0.000	ug/l	13490.52
Th	232	209	3	He	0.000	ug/l	129.39
U	238	209	1	No Gas	0.000	ug/l	34.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2558831.75	100.0
Sc	45	2	H2	1355955.76	100.0
Sc	45	3	He	159545.83	100.0
Ge	72	1	No Gas	669899.96	100.0
Ge	72	2	H2	455516.48	100.0
Ge	72	3	He	101872.99	100.0
In	115	1	No Gas	4562878.12	100.0
In	115	3	He	1061806.25	100.0
Tb	159	1	No Gas	6343583.93	100.0
Tb	159	3	He	2651003.15	100.0
Ho	165	1	No Gas	6253758.17	100.0
Ho	165	3	He	2640575.09	100.0
Lu	175	1	No Gas	6342212.09	100.0
Lu	175	3	He	2214034.53	100.0
Bi	209	1	No Gas	4372384.71	100.0
Bi	209	3	He	2006463.42	100.0

ICPMS207-B Analytical Data

Sample Name 0.025 ppb STD
File Name 008CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:05:11
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	0.233	ug/l	13650.27
Be	9	45	1	No Gas	0.015	ug/l	503.57
B	11	45	1	No Gas	0.039	ug/l	1449.99
Na	23	45	3	He	4.971	ug/l	48009.70
Mg	24	45	3	He	5.778	ug/l	4724.70
Al	27	45	1	No Gas	0.108	ug/l	47246.33
Si	28	45	2	H2	0.291	ug/l	8756.74
K	39	72	3	He	9.405	ug/l	119366.89
Ca	40	72	2	H2	8.314	ug/l	150078.39
Ti	47	72	1	No Gas	0.142	ug/l	427.20
V	51	72	1	No Gas	4.695	ug/l	-47050.44
V	51	72	3	He	1.078	ug/l	47843.10
Cr	52	72	1	No Gas	0.401	ug/l	121078.81
Cr	52	72	3	He	0.057	ug/l	1083.38
Mn	55	72	1	No Gas	0.037	ug/l	16429.93
Mn	55	72	3	He	0.025	ug/l	201.30
Fe	56	72	2	H2	0.671	ug/l	19871.72
Fe	56	72	3	He	0.783	ug/l	8462.64
Co	59	72	1	No Gas	0.028	ug/l	941.50
Ni	60	72	1	No Gas	0.032	ug/l	778.48
Ni	60	72	3	He	0.028	ug/l	143.34
Cu	63	72	1	No Gas	0.040	ug/l	2191.05
Cu	63	72	3	He	0.045	ug/l	526.57
Cu	65	72	1	No Gas	0.036	ug/l	734.98
Zn	66	72	1	No Gas	0.185	ug/l	872.97
Zn	66	72	3	He	0.180	ug/l	216.67
As	75	72	1	No Gas	-2.803	ug/l	15911.83
As	75	72	3	He	0.066	ug/l	598.47
Se	78	72	2	H2	0.037	ug/l	50.22
Br	79	72	1	No Gas	0.079	ug/l	5653.25
Br	79	72	2	H2	0.158	ug/l	3127.48
Se	82	72	1	No Gas	-0.460	ug/l	577.67
Kr	84	72	1	No Gas		ug/l	17459.48
Sr	88	72	1	No Gas	0.031	ug/l	911.56
Sr	88	72	3	He	0.033	ug/l	133.33
Mo	95	115	1	No Gas	0.020	ug/l	116.67
Mo	95	115	3	He	0.025	ug/l	45.56
Mo	98	115	1	No Gas	0.021	ug/l	180.14
Ag	107	115	1	No Gas	0.018	ug/l	1049.13
Ag	109	115	1	No Gas	0.014	ug/l	999.78
Cd	111	115	1	No Gas	0.037	ug/l	83.41

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.028	ug/l	27.56
Cd	114	115	1	No Gas	0.025	ug/l	74.28
Cd	114	115	3	He	0.022	ug/l	54.73
Sn	118	115	1	No Gas	0.743	ug/l	8209.44
Sn	118	115	3	He	0.799	ug/l	2150.18
Sb	121	115	1	No Gas	0.023	ug/l	413.71
Sb	121	115	3	He	0.027	ug/l	120.68
Sb	123	115	1	No Gas	0.025	ug/l	335.71
Sb	123	115	3	He	0.031	ug/l	105.01
Ba	135	115	1	No Gas	0.023	ug/l	66.53
Ba	137	115	1	No Gas	0.024	ug/l	126.42
La	139	115	3	He	0.024	ug/l	284.45
Ce	140	115	3	He	0.023	ug/l	288.89
Hg	201	209	1	No Gas	0.001	ug/l	13.00
Hg	202	209	1	No Gas	0.003	ug/l	29.66
Hg	202	209	3	He	0.002	ug/l	11.67
Tl	203	209	3	He	0.007	ug/l	364.82
Tl	205	209	1	No Gas	0.019	ug/l	1925.71
Tl	205	209	3	He	0.020	ug/l	985.10
[Pb]	206	209	1	No Gas	-0.007	ug/l	3521.60
[Pb]	207	209	1	No Gas	-0.005	ug/l	2845.88
Pb	208	209	1	No Gas	-0.001	ug/l	13498.32
Th	232	209	3	He	0.012	ug/l	326.14
U	238	209	1	No Gas	0.023	ug/l	796.87

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2553537.16	99.8
Sc	45	2	H2	1350950.13	99.6
Sc	45	3	He	160010.03	100.3
Ge	72	1	No Gas	657500.64	98.1
Ge	72	2	H2	446126.54	97.9
Ge	72	3	He	99956.23	98.1
In	115	1	No Gas	4455284.08	97.6
In	115	3	He	1043228.63	98.3
Tb	159	1	No Gas	6297828.02	99.3
Tb	159	3	He	2619524.77	98.8
Ho	165	1	No Gas	6214902.39	99.4
Ho	165	3	He	2604804.82	98.6
Lu	175	1	No Gas	6209513.83	97.9
Lu	175	3	He	2207166.60	99.7
Bi	209	1	No Gas	4384857.63	100.3
Bi	209	3	He	2053210.82	102.3

ICPMS207-B Analytical Data

Sample Name 0.05 ppb STD
File Name 009CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:11:49
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	0.465	ug/l	15172.31
Be	9	45	1	No Gas	0.040	ug/l	578.56
B	11	45	1	No Gas	-0.012	ug/l	1384.62
Na	23	45	3	He	10.514	ug/l	49745.30
Mg	24	45	3	He	12.775	ug/l	6508.53
Al	27	45	1	No Gas	-0.326	ug/l	42619.25
Si	28	45	2	H2	-0.037	ug/l	8212.89
K	39	72	3	He	19.296	ug/l	119718.20
Ca	40	72	2	H2	13.752	ug/l	174756.91
Ti	47	72	1	No Gas	0.061	ug/l	333.67
V	51	72	1	No Gas	2.542	ug/l	-77491.73
V	51	72	3	He	1.502	ug/l	47891.11
Cr	52	72	1	No Gas	0.355	ug/l	119694.50
Cr	52	72	3	He	0.060	ug/l	1070.04
Mn	55	72	1	No Gas	0.104	ug/l	17379.20
Mn	55	72	3	He	0.048	ug/l	232.96
Fe	56	72	2	H2	1.437	ug/l	26283.19
Fe	56	72	3	He	1.378	ug/l	9564.42
Co	59	72	1	No Gas	0.044	ug/l	1147.78
Ni	60	72	1	No Gas	0.043	ug/l	805.10
Ni	60	72	3	He	0.061	ug/l	171.11
Cu	63	72	1	No Gas	0.070	ug/l	2391.16
Cu	63	72	3	He	0.065	ug/l	562.57
Cu	65	72	1	No Gas	0.063	ug/l	818.35
Zn	66	72	1	No Gas	0.092	ug/l	650.09
Zn	66	72	3	He	0.052	ug/l	144.45
As	75	72	1	No Gas	-2.412	ug/l	17067.80
As	75	72	3	He	0.096	ug/l	603.47
Se	78	72	2	H2	0.071	ug/l	61.45
Br	79	72	1	No Gas	0.034	ug/l	5327.12
Br	79	72	2	H2	0.072	ug/l	2804.71
Se	82	72	1	No Gas	-0.233	ug/l	616.22
Kr	84	72	1	No Gas		ug/l	17582.69
Sr	88	72	1	No Gas	0.064	ug/l	1583.61
Sr	88	72	3	He	0.067	ug/l	213.33
Mo	95	115	1	No Gas	0.044	ug/l	228.89
Mo	95	115	3	He	0.053	ug/l	87.78
Mo	98	115	1	No Gas	0.045	ug/l	355.70
Ag	107	115	1	No Gas	0.023	ug/l	1122.50
Ag	109	115	1	No Gas	0.018	ug/l	1053.13
Cd	111	115	1	No Gas	0.045	ug/l	105.05

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.052	ug/l	46.89
Cd	114	115	1	No Gas	0.041	ug/l	167.41
Cd	114	115	3	He	0.046	ug/l	101.16
Sn	118	115	1	No Gas	0.750	ug/l	8365.92
Sn	118	115	3	He	0.845	ug/l	2207.97
Sb	121	115	1	No Gas	0.047	ug/l	718.43
Sb	121	115	3	He	0.051	ug/l	198.69
Sb	123	115	1	No Gas	0.050	ug/l	579.40
Sb	123	115	3	He	0.055	ug/l	165.02
Ba	135	115	1	No Gas	0.063	ug/l	163.01
Ba	137	115	1	No Gas	0.046	ug/l	219.57
La	139	115	3	He	0.052	ug/l	592.24
Ce	140	115	3	He	0.054	ug/l	667.80
Hg	201	209	1	No Gas	-0.001	ug/l	10.67
Hg	202	209	1	No Gas	0.005	ug/l	38.66
Hg	202	209	3	He	0.001	ug/l	10.67
Tl	203	209	3	He	0.039	ug/l	502.21
Tl	205	209	1	No Gas	0.046	ug/l	2551.37
Tl	205	209	3	He	0.041	ug/l	1199.87
[Pb]	206	209	1	No Gas	0.007	ug/l	3636.07
[Pb]	207	209	1	No Gas	0.015	ug/l	2983.69
Pb	208	209	1	No Gas	0.021	ug/l	14197.52
Th	232	209	3	He	0.023	ug/l	496.88
U	238	209	1	No Gas	0.050	ug/l	1673.44

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2580386.85	100.8
Sc	45	2	H2	1329647.93	98.1
Sc	45	3	He	157074.32	98.5
Ge	72	1	No Gas	652958.63	97.5
Ge	72	2	H2	448052.44	98.4
Ge	72	3	He	98141.51	96.3
In	115	1	No Gas	4513763.10	98.9
In	115	3	He	1028576.57	96.9
Tb	159	1	No Gas	6266774.47	98.8
Tb	159	3	He	2615113.64	98.6
Ho	165	1	No Gas	6195920.39	99.1
Ho	165	3	He	2641381.31	100.0
Lu	175	1	No Gas	6263492.75	98.8
Lu	175	3	He	2187330.98	98.8
Bi	209	1	No Gas	4381128.91	100.2
Bi	209	3	He	2013224.52	100.3

ICPMS207-B Analytical Data

Sample Name 0.10 ppb STD
File Name 010CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:18:28
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	1.249	ug/l	19473.60
Be	9	45	1	No Gas	0.115	ug/l	771.20
B	11	45	1	No Gas	0.073	ug/l	1488.67
Na	23	45	3	He	29.909	ug/l	59310.58
Mg	24	45	3	He	28.491	ug/l	10772.51
Al	27	45	1	No Gas	0.475	ug/l	51035.38
Si	28	45	2	H2	0.077	ug/l	8457.13
K	39	72	3	He	31.707	ug/l	123843.31
Ca	40	72	2	H2	30.958	ug/l	245469.42
Ti	47	72	1	No Gas	0.201	ug/l	477.16
V	51	72	1	No Gas	-0.203	ug/l	-113011.91
V	51	72	3	He	1.357	ug/l	47948.81
Cr	52	72	1	No Gas	0.777	ug/l	122343.57
Cr	52	72	3	He	0.090	ug/l	1150.05
Mn	55	72	1	No Gas	0.156	ug/l	17868.80
Mn	55	72	3	He	0.123	ug/l	353.94
Fe	56	72	2	H2	3.036	ug/l	38659.51
Fe	56	72	3	He	3.103	ug/l	13311.10
Co	59	72	1	No Gas	0.122	ug/l	2145.91
Ni	60	72	1	No Gas	0.094	ug/l	931.52
Ni	60	72	3	He	0.120	ug/l	225.56
Cu	63	72	1	No Gas	0.162	ug/l	2993.51
Cu	63	72	3	He	0.152	ug/l	772.20
Cu	65	72	1	No Gas	0.160	ug/l	1116.49
Zn	66	72	1	No Gas	0.153	ug/l	776.75
Zn	66	72	3	He	0.156	ug/l	201.12
As	75	72	1	No Gas	-3.171	ug/l	14449.75
As	75	72	3	He	0.197	ug/l	662.53
Se	78	72	2	H2	0.112	ug/l	72.89
Br	79	72	1	No Gas	0.049	ug/l	5317.12
Br	79	72	2	H2	0.048	ug/l	2651.68
Se	82	72	1	No Gas	-0.078	ug/l	629.94
Kr	84	72	1	No Gas		ug/l	17079.61
Sr	88	72	1	No Gas	0.126	ug/l	2794.74
Sr	88	72	3	He	0.122	ug/l	348.90
Mo	95	115	1	No Gas	0.092	ug/l	426.68
Mo	95	115	3	He	0.106	ug/l	168.89
Mo	98	115	1	No Gas	0.106	ug/l	777.46
Ag	107	115	1	No Gas	0.043	ug/l	1320.59
Ag	109	115	1	No Gas	0.043	ug/l	1299.25
Cd	111	115	1	No Gas	0.111	ug/l	261.19

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.114	ug/l	97.78
Cd	114	115	1	No Gas	0.112	ug/l	562.25
Cd	114	115	3	He	0.121	ug/l	246.54
Sn	118	115	1	No Gas	0.845	ug/l	8825.30
Sn	118	115	3	He	0.973	ug/l	2478.02
Sb	121	115	1	No Gas	0.105	ug/l	1407.21
Sb	121	115	3	He	0.098	ug/l	351.04
Sb	123	115	1	No Gas	0.103	ug/l	1064.48
Sb	123	115	3	He	0.106	ug/l	298.03
Ba	135	115	1	No Gas	0.121	ug/l	292.76
Ba	137	115	1	No Gas	0.125	ug/l	522.31
La	139	115	3	He	0.112	ug/l	1266.73
Ce	140	115	3	He	0.109	ug/l	1342.30
Hg	201	209	1	No Gas	0.002	ug/l	14.00
Hg	202	209	1	No Gas	0.004	ug/l	32.32
Hg	202	209	3	He	0.002	ug/l	12.00
Tl	203	209	3	He	0.127	ug/l	879.71
Tl	205	209	1	No Gas	0.132	ug/l	4319.61
Tl	205	209	3	He	0.129	ug/l	2143.70
[Pb]	206	209	1	No Gas	0.102	ug/l	4191.80
[Pb]	207	209	1	No Gas	0.103	ug/l	3431.58
Pb	208	209	1	No Gas	0.114	ug/l	16369.64
Th	232	209	3	He	0.053	ug/l	949.09
U	238	209	1	No Gas	0.105	ug/l	3307.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2530517.05	98.9
Sc	45	2	H2	1346130.34	99.3
Sc	45	3	He	158100.78	99.1
Ge	72	1	No Gas	640235.92	95.6
Ge	72	2	H2	438576.69	96.3
Ge	72	3	He	98890.10	97.1
In	115	1	No Gas	4377527.58	95.9
In	115	3	He	1036119.03	97.6
Tb	159	1	No Gas	6141317.77	96.8
Tb	159	3	He	2589480.01	97.7
Ho	165	1	No Gas	5981642.79	95.6
Ho	165	3	He	2586704.40	98.0
Lu	175	1	No Gas	6030225.27	95.1
Lu	175	3	He	2154138.15	97.3
Bi	209	1	No Gas	4157003.86	95.1
Bi	209	3	He	1966116.14	98.0

ICPMS207-B Analytical Data

Sample Name 0.5 ppb STD
File Name 011CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:25:06
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	5.880	ug/l	46620.61
Be	9	45	1	No Gas	0.501	ug/l	1828.41
B	11	45	1	No Gas	0.338	ug/l	1892.88
Na	23	45	3	He	131.509	ug/l	107649.46
Mg	24	45	3	He	134.812	ug/l	39336.58
Al	27	45	1	No Gas	0.168	ug/l	47575.10
Si	28	45	2	H2	1.076	ug/l	9654.32
K	39	72	3	He	128.720	ug/l	149673.21
Ca	40	72	2	H2	134.528	ug/l	698427.04
Ti	47	72	1	No Gas	0.541	ug/l	852.55
V	51	72	1	No Gas	-2.073	ug/l	-138830.22
V	51	72	3	He	1.253	ug/l	48002.42
Cr	52	72	1	No Gas	0.753	ug/l	123268.46
Cr	52	72	3	He	0.475	ug/l	2086.83
Mn	55	72	1	No Gas	0.579	ug/l	24741.77
Mn	55	72	3	He	0.560	ug/l	1049.16
Fe	56	72	2	H2	13.938	ug/l	127771.56
Fe	56	72	3	He	13.980	ug/l	36667.46
Co	59	72	1	No Gas	0.542	ug/l	7736.74
Ni	60	72	1	No Gas	0.610	ug/l	2405.45
Ni	60	72	3	He	0.578	ug/l	647.80
Cu	63	72	1	No Gas	0.593	ug/l	6086.38
Cu	63	72	3	He	0.576	ug/l	1780.75
Cu	65	72	1	No Gas	0.606	ug/l	2587.27
Zn	66	72	1	No Gas	0.728	ug/l	2104.06
Zn	66	72	3	He	0.665	ug/l	477.79
As	75	72	1	No Gas	-3.884	ug/l	12440.56
As	75	72	3	He	0.605	ug/l	888.21
Se	78	72	2	H2	0.552	ug/l	211.45
Br	79	72	1	No Gas	0.018	ug/l	5167.36
Br	79	72	2	H2	0.059	ug/l	2714.89
Se	82	72	1	No Gas	0.133	ug/l	672.21
Kr	84	72	1	No Gas		ug/l	18222.02
Sr	88	72	1	No Gas	0.551	ug/l	11525.15
Sr	88	72	3	He	0.528	ug/l	1354.52
Mo	95	115	1	No Gas	0.475	ug/l	2073.50
Mo	95	115	3	He	0.492	ug/l	751.14
Mo	98	115	1	No Gas	0.478	ug/l	3383.27
Ag	107	115	1	No Gas	0.207	ug/l	3187.64
Ag	109	115	1	No Gas	0.198	ug/l	2980.85
Cd	111	115	1	No Gas	0.525	ug/l	1253.88

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.521	ug/l	425.12
Cd	114	115	1	No Gas	0.516	ug/l	2830.33
Cd	114	115	3	He	0.528	ug/l	1025.79
Sn	118	115	1	No Gas	0.965	ug/l	9654.20
Sn	118	115	3	He	1.086	ug/l	2675.83
Sb	121	115	1	No Gas	0.473	ug/l	5844.80
Sb	121	115	3	He	0.492	ug/l	1613.26
Sb	123	115	1	No Gas	0.474	ug/l	4511.85
Sb	123	115	3	He	0.504	ug/l	1303.19
Ba	135	115	1	No Gas	0.579	ug/l	1337.42
Ba	137	115	1	No Gas	0.521	ug/l	2079.37
La	139	115	3	He	0.510	ug/l	5676.75
Ce	140	115	3	He	0.522	ug/l	6329.26
Hg	201	209	1	No Gas	0.010	ug/l	28.66
Hg	202	209	1	No Gas	0.014	ug/l	71.66
Hg	202	209	3	He	0.009	ug/l	24.99
Tl	203	209	3	He	0.515	ug/l	2571.95
Tl	205	209	1	No Gas	0.499	ug/l	12796.20
Tl	205	209	3	He	0.486	ug/l	6019.79
[Pb]	206	209	1	No Gas	0.438	ug/l	7031.90
[Pb]	207	209	1	No Gas	0.491	ug/l	6240.39
Pb	208	209	1	No Gas	0.475	ug/l	28431.00
Th	232	209	3	He	0.306	ug/l	4862.19
U	238	209	1	No Gas	0.471	ug/l	15080.00

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2534929.43	99.1
Sc	45	2	H2	1338190.24	98.7
Sc	45	3	He	157992.46	99.0
Ge	72	1	No Gas	646568.72	96.5
Ge	72	2	H2	441891.98	97.0
Ge	72	3	He	99460.76	97.6
In	115	1	No Gas	4344725.36	95.2
In	115	3	He	1026912.13	96.7
Tb	159	1	No Gas	6202622.92	97.8
Tb	159	3	He	2552567.87	96.3
Ho	165	1	No Gas	6077728.51	97.2
Ho	165	3	He	2555351.72	96.8
Lu	175	1	No Gas	6128424.67	96.6
Lu	175	3	He	2169675.02	98.0
Bi	209	1	No Gas	4278752.79	97.9
Bi	209	3	He	1951257.04	97.2

ICPMS207-B Analytical Data

Sample Name 1 ppb STD
File Name 012CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:31:44
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	11.830	ug/l	82561.15
Be	9	45	1	No Gas	0.987	ug/l	3200.37
B	11	45	1	No Gas	0.710	ug/l	2490.54
Na	23	45	3	He	277.890	ug/l	177721.97
Mg	24	45	3	He	279.563	ug/l	78392.07
Al	27	45	1	No Gas	0.323	ug/l	50036.47
Si	28	45	2	H2	2.730	ug/l	11830.09
K	39	72	3	He	277.367	ug/l	185405.53
Ca	40	72	2	H2	280.500	ug/l	1345950.76
Ti	47	72	1	No Gas	1.060	ug/l	1439.86
V	51	72	1	No Gas	1.513	ug/l	-92080.67
V	51	72	3	He	1.743	ug/l	48340.01
Cr	52	72	1	No Gas	1.176	ug/l	130207.80
Cr	52	72	3	He	1.128	ug/l	3610.46
Mn	55	72	1	No Gas	1.137	ug/l	34118.49
Mn	55	72	3	He	1.136	ug/l	1935.08
Fe	56	72	2	H2	28.608	ug/l	249489.66
Fe	56	72	3	He	29.375	ug/l	68586.36
Co	59	72	1	No Gas	1.086	ug/l	15191.12
Ni	60	72	1	No Gas	1.160	ug/l	4022.59
Ni	60	72	3	He	1.144	ug/l	1151.16
Cu	63	72	1	No Gas	1.165	ug/l	10302.44
Cu	63	72	3	He	1.219	ug/l	3253.05
Cu	65	72	1	No Gas	1.177	ug/l	4520.52
Zn	66	72	1	No Gas	1.074	ug/l	2942.67
Zn	66	72	3	He	1.029	ug/l	665.58
As	75	72	1	No Gas	-5.626	ug/l	7365.79
As	75	72	3	He	1.227	ug/l	1207.90
Se	78	72	2	H2	1.074	ug/l	378.45
Br	79	72	1	No Gas	-0.065	ug/l	4701.46
Br	79	72	2	H2	-0.002	ug/l	2501.94
Se	82	72	1	No Gas	0.832	ug/l	805.95
Kr	84	72	1	No Gas		ug/l	17535.97
Sr	88	72	1	No Gas	1.121	ug/l	23556.02
Sr	88	72	3	He	1.199	ug/l	2962.55
Mo	95	115	1	No Gas	0.966	ug/l	4212.88
Mo	95	115	3	He	1.019	ug/l	1536.76
Mo	98	115	1	No Gas	0.960	ug/l	6798.96
Ag	107	115	1	No Gas	0.401	ug/l	5436.56
Ag	109	115	1	No Gas	0.403	ug/l	5253.09
Cd	111	115	1	No Gas	1.103	ug/l	2655.67

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.082	ug/l	872.03
Cd	114	115	1	No Gas	1.033	ug/l	5764.62
Cd	114	115	3	He	1.108	ug/l	2125.23
Sn	118	115	1	No Gas	1.721	ug/l	15351.39
Sn	118	115	3	He	1.841	ug/l	4117.30
Sb	121	115	1	No Gas	0.978	ug/l	12025.34
Sb	121	115	3	He	1.021	ug/l	3289.72
Sb	123	115	1	No Gas	0.965	ug/l	9131.89
Sb	123	115	3	He	1.052	ug/l	2671.19
Ba	135	115	1	No Gas	1.062	ug/l	2455.37
Ba	137	115	1	No Gas	0.995	ug/l	3966.04
La	139	115	3	He	1.077	ug/l	11896.26
Ce	140	115	3	He	1.066	ug/l	12840.45
Hg	201	209	1	No Gas	0.015	ug/l	37.99
Hg	202	209	1	No Gas	0.023	ug/l	107.31
Hg	202	209	3	He	0.020	ug/l	44.99
Tl	203	209	3	He	1.015	ug/l	4825.49
Tl	205	209	1	No Gas	1.000	ug/l	24112.95
Tl	205	209	3	He	0.984	ug/l	11586.35
[Pb]	206	209	1	No Gas	0.953	ug/l	11140.28
[Pb]	207	209	1	No Gas	0.970	ug/l	9545.70
Pb	208	209	1	No Gas	0.969	ug/l	44089.91
Th	232	209	3	He	0.730	ug/l	11553.07
U	238	209	1	No Gas	0.971	ug/l	30948.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2569067.19	100.4
Sc	45	2	H2	1350939.28	99.6
Sc	45	3	He	158327.20	99.2
Ge	72	1	No Gas	656556.71	98.0
Ge	72	2	H2	445798.48	97.9
Ge	72	3	He	97973.82	96.2
In	115	1	No Gas	4367305.12	95.7
In	115	3	He	1020036.75	96.1
Tb	159	1	No Gas	6059665.03	95.5
Tb	159	3	He	2598911.63	98.0
Ho	165	1	No Gas	6067534.98	97.0
Ho	165	3	He	2569843.19	97.3
Lu	175	1	No Gas	6092256.11	96.1
Lu	175	3	He	2174662.27	98.2
Bi	209	1	No Gas	4260652.15	97.4
Bi	209	3	He	1975278.92	98.4

ICPMS207-B Analytical Data

Sample Name 10 ppb STD
File Name 013CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:38:23
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	122.665	ug/l	751801.81
Be	9	45	1	No Gas	9.584	ug/l	27438.89
B	11	45	1	No Gas	9.274	ug/l	15904.74
Na	23	45	3	He	2668.231	ug/l	1352210.26
Mg	24	45	3	He	2651.586	ug/l	735558.82
Al	27	45	1	No Gas	9.154	ug/l	155565.27
Si	28	45	2	H2	38.108	ug/l	56200.04
K	39	72	3	He	2721.596	ug/l	820991.54
Ca	40	72	2	H2	2652.133	ug/l	11682707.30
Ti	47	72	1	No Gas	10.498	ug/l	11886.79
V	51	72	1	No Gas	10.762	ug/l	35381.98
V	51	72	3	He	9.305	ug/l	65531.73
Cr	52	72	1	No Gas	10.723	ug/l	245814.21
Cr	52	72	3	He	10.788	ug/l	26999.16
Mn	55	72	1	No Gas	10.787	ug/l	189666.77
Mn	55	72	3	He	11.183	ug/l	17910.63
Fe	56	72	2	H2	275.803	ug/l	2265021.92
Fe	56	72	3	He	281.680	ug/l	609344.43
Co	59	72	1	No Gas	10.730	ug/l	145189.84
Ni	60	72	1	No Gas	11.274	ug/l	33175.08
Ni	60	72	3	He	11.090	ug/l	10291.45
Cu	63	72	1	No Gas	11.019	ug/l	81492.58
Cu	63	72	3	He	11.424	ug/l	27422.09
Cu	65	72	1	No Gas	11.432	ug/l	38588.93
Zn	66	72	1	No Gas	11.333	ug/l	26860.74
Zn	66	72	3	He	10.865	ug/l	5995.71
As	75	72	1	No Gas	8.418	ug/l	50191.85
As	75	72	3	He	10.853	ug/l	6449.50
Se	78	72	2	H2	10.419	ug/l	3312.38
Br	79	72	1	No Gas	-0.010	ug/l	5067.52
Br	79	72	2	H2	0.013	ug/l	2538.52
Se	82	72	1	No Gas	10.556	ug/l	2532.00
Kr	84	72	1	No Gas		ug/l	18205.50
Sr	88	72	1	No Gas	10.813	ug/l	225194.11
Sr	88	72	3	He	10.905	ug/l	26920.89
Mo	95	115	1	No Gas	9.591	ug/l	41937.10
Mo	95	115	3	He	10.099	ug/l	15536.27
Mo	98	115	1	No Gas	9.495	ug/l	67569.91
Ag	107	115	1	No Gas	3.907	ug/l	46120.34
Ag	109	115	1	No Gas	3.887	ug/l	43957.41
Cd	111	115	1	No Gas	10.374	ug/l	25252.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.359	ug/l	8515.33
Cd	114	115	1	No Gas	9.984	ug/l	56817.11
Cd	114	115	3	He	10.678	ug/l	20872.59
Sn	118	115	1	No Gas	10.115	ug/l	78789.76
Sn	118	115	3	He	10.769	ug/l	21914.90
Sb	121	115	1	No Gas	9.433	ug/l	115865.51
Sb	121	115	3	He	9.882	ug/l	32341.17
Sb	123	115	1	No Gas	9.418	ug/l	89038.02
Sb	123	115	3	He	10.040	ug/l	25904.02
Ba	135	115	1	No Gas	10.093	ug/l	23439.86
Ba	137	115	1	No Gas	10.211	ug/l	40782.19
La	139	115	3	He	10.314	ug/l	116639.30
Ce	140	115	3	He	10.414	ug/l	128496.21
Hg	201	209	1	No Gas	0.197	ug/l	359.93
Hg	202	209	1	No Gas	0.198	ug/l	805.53
Hg	202	209	3	He	0.194	ug/l	369.93
Tl	203	209	3	He	9.928	ug/l	44023.16
Tl	205	209	1	No Gas	9.937	ug/l	227564.44
Tl	205	209	3	He	9.705	ug/l	107008.81
[Pb]	206	209	1	No Gas	9.677	ug/l	81558.15
[Pb]	207	209	1	No Gas	9.648	ug/l	70239.89
Pb	208	209	1	No Gas	9.661	ug/l	322870.79
Th	232	209	3	He	9.127	ug/l	141908.74
U	238	209	1	No Gas	9.577	ug/l	306109.44

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2609157.43	102.0
Sc	45	2	H2	1346390.22	99.3
Sc	45	3	He	162428.09	101.8
Ge	72	1	No Gas	657041.71	98.1
Ge	72	2	H2	442673.43	97.2
Ge	72	3	He	99444.46	97.6
In	115	1	No Gas	4405767.82	96.6
In	115	3	He	1045580.07	98.5
Tb	159	1	No Gas	6138659.95	96.8
Tb	159	3	He	2585143.02	97.5
Ho	165	1	No Gas	5977940.18	95.6
Ho	165	3	He	2547827.61	96.5
Lu	175	1	No Gas	6197723.18	97.7
Lu	175	3	He	2158273.43	97.5
Bi	209	1	No Gas	4278060.12	97.8
Bi	209	3	He	1960043.69	97.7

ICPMS207-B Analytical Data

Sample Name 50 ppb STD
File Name 014CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:45:01
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	595.451	ug/l	3557227.98
Be	9	45	1	No Gas	52.737	ug/l	147068.46
B	11	45	1	No Gas	52.276	ug/l	82057.53
Na	23	45	3	He	12502.178	ug/l	6254308.52
Mg	24	45	3	He	12608.526	ug/l	3536380.56
Al	27	45	1	No Gas	53.746	ug/l	676427.46
Si	28	45	2	H2	214.995	ug/l	274717.76
K	39	72	3	He	12427.231	ug/l	3469399.50
Ca	40	72	2	H2	12356.375	ug/l	54679033.36
Ti	47	72	1	No Gas	53.292	ug/l	60691.57
V	51	72	1	No Gas	56.381	ug/l	679506.33
V	51	72	3	He	50.122	ug/l	161091.30
Cr	52	72	1	No Gas	56.152	ug/l	814514.81
Cr	52	72	3	He	54.955	ug/l	139105.40
Mn	55	72	1	No Gas	55.952	ug/l	939856.21
Mn	55	72	3	He	56.224	ug/l	93031.89
Fe	56	72	2	H2	1290.042	ug/l	10670387.30
Fe	56	72	3	He	1288.085	ug/l	2873891.21
Co	59	72	1	No Gas	54.880	ug/l	758320.79
Ni	60	72	1	No Gas	57.780	ug/l	171259.28
Ni	60	72	3	He	55.858	ug/l	53461.65
Cu	63	72	1	No Gas	55.917	ug/l	415643.57
Cu	63	72	3	He	57.286	ug/l	141356.91
Cu	65	72	1	No Gas	57.620	ug/l	196671.39
Zn	66	72	1	No Gas	58.838	ug/l	140946.42
Zn	66	72	3	He	55.724	ug/l	31479.52
As	75	72	1	No Gas	55.714	ug/l	199419.13
As	75	72	3	He	54.981	ug/l	31628.62
Se	78	72	2	H2	54.420	ug/l	17348.55
Br	79	72	1	No Gas	0.017	ug/l	5370.37
Br	79	72	2	H2	0.097	ug/l	2901.22
Se	82	72	1	No Gas	57.194	ug/l	11067.91
Kr	84	72	1	No Gas		ug/l	25015.46
Sr	88	72	1	No Gas	56.180	ug/l	1197321.07
Sr	88	72	3	He	56.304	ug/l	144432.10
Mo	95	115	1	No Gas	51.305	ug/l	221583.56
Mo	95	115	3	He	51.650	ug/l	79885.36
Mo	98	115	1	No Gas	49.620	ug/l	348966.91
Ag	107	115	1	No Gas	20.483	ug/l	235488.91
Ag	109	115	1	No Gas	20.527	ug/l	225986.25
Cd	111	115	1	No Gas	55.408	ug/l	133340.87

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.511	ug/l	45049.93
Cd	114	115	1	No Gas	53.388	ug/l	300634.83
Cd	114	115	3	He	55.862	ug/l	109792.98
Sn	118	115	1	No Gas	49.714	ug/l	372986.39
Sn	118	115	3	He	52.044	ug/l	104327.08
Sb	121	115	1	No Gas	52.178	ug/l	632961.37
Sb	121	115	3	He	52.876	ug/l	173927.61
Sb	123	115	1	No Gas	52.599	ug/l	491068.25
Sb	123	115	3	He	52.867	ug/l	137094.97
Ba	135	115	1	No Gas	55.342	ug/l	126973.49
Ba	137	115	1	No Gas	55.273	ug/l	218110.76
La	139	115	3	He	49.720	ug/l	565625.30
Ce	140	115	3	He	48.997	ug/l	608057.19
Hg	201	209	1	No Gas	0.961	ug/l	1666.44
Hg	202	209	1	No Gas	0.970	ug/l	3776.12
Hg	202	209	3	He	0.971	ug/l	1760.43
Tl	203	209	3	He	54.389	ug/l	231941.33
Tl	205	209	1	No Gas	53.206	ug/l	1181709.36
Tl	205	209	3	He	52.534	ug/l	557348.80
[Pb]	206	209	1	No Gas	52.405	ug/l	415504.87
[Pb]	207	209	1	No Gas	52.034	ug/l	357120.80
Pb	208	209	1	No Gas	52.880	ug/l	1664798.56
Th	232	209	3	He	51.838	ug/l	779229.34
U	238	209	1	No Gas	52.076	ug/l	1622054.91

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2577121.86	100.7
Sc	45	2	H2	1329205.87	98.0
Sc	45	3	He	164767.70	103.3
Ge	72	1	No Gas	672972.08	100.5
Ge	72	2	H2	447986.64	98.3
Ge	72	3	He	103398.21	101.5
In	115	1	No Gas	4354312.03	95.4
In	115	3	He	1051954.25	99.1
Tb	159	1	No Gas	6145638.24	96.9
Tb	159	3	He	2574601.47	97.1
Ho	165	1	No Gas	5989062.24	95.8
Ho	165	3	He	2547753.73	96.5
Lu	175	1	No Gas	6100725.98	96.2
Lu	175	3	He	2128123.54	96.1
Bi	209	1	No Gas	4169710.99	95.4
Bi	209	3	He	1895937.40	94.5

ICPMS207-B Analytical Data

Sample Name 100 ppb STD
File Name 015CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:51:38
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	1235.639	ug/l	7320737.79
Be	9	45	1	No Gas	100.847	ug/l	278994.77
B	11	45	1	No Gas	102.136	ug/l	157955.98
Na	23	45	3	He	24799.206	ug/l	12537692.59
Mg	24	45	3	He	24799.630	ug/l	7052075.61
Al	27	45	1	No Gas	99.508	ug/l	1204871.28
Si	28	45	2	H2	392.709	ug/l	492805.36
K	39	72	3	He	24844.525	ug/l	6852117.67
Ca	40	72	2	H2	24570.590	ug/l	108035659.36
Ti	47	72	1	No Gas	98.303	ug/l	115294.94
V	51	72	1	No Gas	107.148	ug/l	1440311.13
V	51	72	3	He	95.205	ug/l	265072.32
Cr	52	72	1	No Gas	100.495	ug/l	1407532.06
Cr	52	72	3	He	101.084	ug/l	256451.41
Mn	55	72	1	No Gas	97.257	ug/l	1673703.78
Mn	55	72	3	He	103.240	ug/l	171593.32
Fe	56	72	2	H2	2551.170	ug/l	20981173.56
Fe	56	72	3	He	2580.944	ug/l	5782761.31
Co	59	72	1	No Gas	95.762	ug/l	1365266.22
Ni	60	72	1	No Gas	101.824	ug/l	311022.00
Ni	60	72	3	He	100.846	ug/l	96955.41
Cu	63	72	1	No Gas	100.265	ug/l	767704.11
Cu	63	72	3	He	103.515	ug/l	256440.05
Cu	65	72	1	No Gas	103.767	ug/l	365070.18
Zn	66	72	1	No Gas	105.698	ug/l	260998.88
Zn	66	72	3	He	102.681	ug/l	58202.32
As	75	72	1	No Gas	104.106	ug/l	362151.87
As	75	72	3	He	101.103	ug/l	57983.73
Se	78	72	2	H2	100.110	ug/l	31715.79
Br	79	72	1	No Gas	0.077	ug/l	5962.76
Br	79	72	2	H2	0.172	ug/l	3180.71
Se	82	72	1	No Gas	99.700	ug/l	19393.67
Kr	84	72	1	No Gas		ug/l	31868.52
Sr	88	72	1	No Gas	99.833	ug/l	2195524.06
Sr	88	72	3	He	102.563	ug/l	264448.31
Mo	95	115	1	No Gas	99.389	ug/l	414792.41
Mo	95	115	3	He	99.165	ug/l	151157.39
Mo	98	115	1	No Gas	100.241	ug/l	681159.19
Ag	107	115	1	No Gas	39.768	ug/l	441049.83
Ag	109	115	1	No Gas	39.748	ug/l	422039.51
Cd	111	115	1	No Gas	106.167	ug/l	246894.26

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	100.311	ug/l	81705.01
Cd	114	115	1	No Gas	101.869	ug/l	554358.40
Cd	114	115	3	He	103.278	ug/l	200038.35
Sn	118	115	1	No Gas	100.121	ug/l	723438.62
Sn	118	115	3	He	98.888	ug/l	194845.71
Sb	121	115	1	No Gas	98.968	ug/l	1160028.85
Sb	121	115	3	He	98.574	ug/l	319483.79
Sb	123	115	1	No Gas	98.759	ug/l	890859.33
Sb	123	115	3	He	98.562	ug/l	251876.98
Ba	135	115	1	No Gas	105.020	ug/l	232808.69
Ba	137	115	1	No Gas	105.898	ug/l	403735.02
La	139	115	3	He	100.108	ug/l	1122049.07
Ce	140	115	3	He	100.459	ug/l	1228729.96
Hg	201	209	1	No Gas	2.020	ug/l	3366.09
Hg	202	209	1	No Gas	2.015	ug/l	7548.29
Hg	202	209	3	He	2.015	ug/l	3567.43
Tl	203	209	3	He	101.737	ug/l	424066.59
Tl	205	209	1	No Gas	101.023	ug/l	2163444.31
Tl	205	209	3	He	97.511	ug/l	1011213.66
[Pb]	206	209	1	No Gas	99.551	ug/l	758699.89
[Pb]	207	209	1	No Gas	100.146	ug/l	661030.41
Pb	208	209	1	No Gas	99.435	ug/l	3010323.81
Th	232	209	3	He	97.701	ug/l	1436300.99
U	238	209	1	No Gas	99.202	ug/l	2981955.93

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2560252.92	100.1
Sc	45	2	H2	1323377.40	97.6
Sc	45	3	He	167143.82	104.8
Ge	72	1	No Gas	694595.90	103.7
Ge	72	2	H2	445733.16	97.9
Ge	72	3	He	103958.29	102.0
In	115	1	No Gas	4207998.44	92.2
In	115	3	He	1036491.47	97.6
Tb	159	1	No Gas	6132636.80	96.7
Tb	159	3	He	2523890.13	95.2
Ho	165	1	No Gas	5996043.28	95.9
Ho	165	3	He	2501047.10	94.7
Lu	175	1	No Gas	6085853.71	96.0
Lu	175	3	He	2116417.10	95.6
Bi	209	1	No Gas	4023742.27	92.0
Bi	209	3	He	1854317.98	92.4

ICPMS207-B Analytical Data

Sample Name 1000 ppb STD
File Name 016CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 13:58:10
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	2514.689	ug/l	15066418.55
Be	9	45	1	No Gas	999.783	ug/l	2795052.33
B	11	45	1	No Gas	999.680	ug/l	1552323.98
Na	23	45	3	He	50091.283	ug/l	24763577.69
Mg	24	45	3	He	50065.300	ug/l	13946870.99
Al	27	45	1	No Gas	999.871	ug/l	11831156.91
Si	28	45	2	H2	-0.076	ug/l	7863.24
K	39	72	3	He	50084.699	ug/l	13410030.22
Ca	40	72	2	H2	50242.825	ug/l	209357603.56
Ti	47	72	1	No Gas	7.036	ug/l	8263.99
V	51	72	1	No Gas	998.959	ug/l	13989746.28
V	51	72	3	He	1000.479	ug/l	2288304.59
Cr	52	72	1	No Gas	999.635	ug/l	12519125.20
Cr	52	72	3	He	999.636	ug/l	2476200.31
Mn	55	72	1	No Gas	999.969	ug/l	16549415.97
Mn	55	72	3	He	999.353	ug/l	1625916.26
Fe	56	72	2	H2	6022.619	ug/l	46937062.49
Fe	56	72	3	He	6009.883	ug/l	13184250.14
Co	59	72	1	No Gas	1000.172	ug/l	13831397.25
Ni	60	72	1	No Gas	999.416	ug/l	2954883.64
Ni	60	72	3	He	999.611	ug/l	940354.58
Cu	63	72	1	No Gas	999.667	ug/l	7409089.47
Cu	63	72	3	He	999.270	ug/l	2421617.91
Cu	65	72	1	No Gas	999.228	ug/l	3405118.47
Zn	66	72	1	No Gas	998.975	ug/l	2389242.75
Zn	66	72	3	He	999.437	ug/l	554058.68
As	75	72	1	No Gas	999.329	ug/l	3156761.79
As	75	72	3	He	999.632	ug/l	556635.57
Se	78	72	2	H2	999.764	ug/l	300081.78
Br	79	72	1	No Gas	0.327	ug/l	7463.84
Br	79	72	2	H2	1.896	ug/l	9427.75
Se	82	72	1	No Gas	999.665	ug/l	182574.75
Kr	84	72	1	No Gas		ug/l	151137.44
Sr	88	72	1	No Gas	999.699	ug/l	21332844.86
Sr	88	72	3	He	999.419	ug/l	2524598.24
Mo	95	115	1	No Gas	0.124	ug/l	546.68
Mo	95	115	3	He	0.078	ug/l	122.22
Mo	98	115	1	No Gas	0.137	ug/l	959.00
Ag	107	115	1	No Gas	342.495	ug/l	3790344.80
Ag	109	115	1	No Gas	339.880	ug/l	3601212.32
Cd	111	115	1	No Gas	999.109	ug/l	2322013.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	999.740	ug/l	785027.67
Cd	114	115	1	No Gas	999.644	ug/l	5437220.15
Cd	114	115	3	He	999.372	ug/l	1866100.57
Sn	118	115	1	No Gas	0.829	ug/l	8362.57
Sn	118	115	3	He	0.886	ug/l	2223.52
Sb	121	115	1	No Gas	0.186	ug/l	2296.09
Sb	121	115	3	He	0.144	ug/l	482.73
Sb	123	115	1	No Gas	0.196	ug/l	1861.98
Sb	123	115	3	He	0.157	ug/l	412.05
Ba	135	115	1	No Gas	999.230	ug/l	2213572.52
Ba	137	115	1	No Gas	999.144	ug/l	3806452.24
La	139	115	3	He	0.007	ug/l	85.55
Ce	140	115	3	He	0.021	ug/l	256.67
Hg	201	209	1	No Gas	0.171	ug/l	291.04
Hg	202	209	1	No Gas	0.019	ug/l	85.98
Hg	202	209	3	He	0.014	ug/l	31.32
Tl	203	209	3	He	999.608	ug/l	3950420.74
Tl	205	209	1	No Gas	999.738	ug/l	21017664.83
Tl	205	209	3	He	1000.125	ug/l	9833765.03
[Pb]	206	209	1	No Gas	999.928	ug/l	7458080.86
[Pb]	207	209	1	No Gas	999.887	ug/l	6458825.94
Pb	208	209	1	No Gas	999.916	ug/l	29625508.38
Th	232	209	3	He	1000.147	ug/l	13948541.76
U	238	209	1	No Gas	999.980	ug/l	29527236.57

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2591330.09	101.3
Sc	45	2	H2	1280702.94	94.5
Sc	45	3	He	163774.93	102.7
Ge	72	1	No Gas	674009.36	100.6
Ge	72	2	H2	422856.97	92.8
Ge	72	3	He	101868.21	100.0
In	115	1	No Gas	4205449.00	92.2
In	115	3	He	999314.09	94.1
Tb	159	1	No Gas	6006902.37	94.7
Tb	159	3	He	2497404.16	94.2
Ho	165	1	No Gas	5880050.78	94.0
Ho	165	3	He	2467941.58	93.5
Lu	175	1	No Gas	5979642.82	94.3
Lu	175	3	He	2069014.62	93.4
Bi	209	1	No Gas	3954790.13	90.4
Bi	209	3	He	1759268.89	87.7

ICPMS207-B Analytical Data

Sample Name 100 ppb Br STD
File Name 017CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:04:41
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	3.932	ug/l	36707.45
Be	9	45	1	No Gas	0.082	ug/l	711.21
B	11	45	1	No Gas	12.655	ug/l	21450.45
Na	23	45	3	He	4.652	ug/l	48045.23
Mg	24	45	3	He	-2.888	ug/l	2375.48
Al	27	45	1	No Gas	-0.854	ug/l	37335.20
Si	28	45	2	H2	1.029	ug/l	9464.80
K	39	72	3	He	787.889	ug/l	319121.09
Ca	40	72	2	H2	14.392	ug/l	176218.75
Ti	47	72	1	No Gas	0.228	ug/l	540.56
V	51	72	1	No Gas	-0.477	ug/l	-123976.89
V	51	72	3	He	-1.807	ug/l	41109.42
Cr	52	72	1	No Gas	1.470	ug/l	139050.16
Cr	52	72	3	He	0.080	ug/l	1128.94
Mn	55	72	1	No Gas	0.335	ug/l	22029.44
Mn	55	72	3	He	0.057	ug/l	250.28
Fe	56	72	2	H2	0.150	ug/l	15530.50
Fe	56	72	3	He	0.177	ug/l	7093.86
Co	59	72	1	No Gas	0.024	ug/l	918.21
Ni	60	72	1	No Gas	0.082	ug/l	958.14
Ni	60	72	3	He	-0.019	ug/l	98.89
Cu	63	72	1	No Gas	0.370	ug/l	4746.68
Cu	63	72	3	He	0.087	ug/l	619.56
Cu	65	72	1	No Gas	0.094	ug/l	963.09
Zn	66	72	1	No Gas	0.102	ug/l	703.71
Zn	66	72	3	He	0.132	ug/l	188.89
As	75	72	1	No Gas	-1.972	ug/l	19182.38
As	75	72	3	He	0.476	ug/l	814.54
Se	78	72	2	H2	0.241	ug/l	114.67
Br	79	72	1	No Gas	100.000	ug/l	685901.89
Br	79	72	2	H2	100.000	ug/l	393207.14
Se	82	72	1	No Gas	1.853	ug/l	1026.64
Kr	84	72	1	No Gas		ug/l	18355.23
Sr	88	72	1	No Gas	0.023	ug/l	761.84
Sr	88	72	3	He	0.035	ug/l	135.56
Mo	95	115	1	No Gas	0.033	ug/l	170.00
Mo	95	115	3	He	0.023	ug/l	42.22
Mo	98	115	1	No Gas	0.019	ug/l	156.18
Ag	107	115	1	No Gas	0.126	ug/l	2242.42
Ag	109	115	1	No Gas	0.122	ug/l	2128.35
Cd	111	115	1	No Gas	0.027	ug/l	56.53

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.037	ug/l	35.00
Cd	114	115	1	No Gas	0.021	ug/l	46.59
Cd	114	115	3	He	0.024	ug/l	58.74
Sn	118	115	1	No Gas	1.223	ug/l	11458.66
Sn	118	115	3	He	1.371	ug/l	3235.95
Sb	121	115	1	No Gas	0.050	ug/l	724.42
Sb	121	115	3	He	0.046	ug/l	182.69
Sb	123	115	1	No Gas	0.051	ug/l	566.40
Sb	123	115	3	He	0.053	ug/l	160.69
Ba	135	115	1	No Gas	0.019	ug/l	56.55
Ba	137	115	1	No Gas	0.029	ug/l	143.05
La	139	115	3	He	0.001	ug/l	23.33
Ce	140	115	3	He	0.002	ug/l	28.89
Hg	201	209	1	No Gas	0.008	ug/l	25.99
Hg	202	209	1	No Gas	0.012	ug/l	64.65
Hg	202	209	3	He	0.012	ug/l	27.66
Tl	203	209	3	He	0.249	ug/l	1329.94
Tl	205	209	1	No Gas	0.281	ug/l	7625.56
Tl	205	209	3	He	0.227	ug/l	3023.56
[Pb]	206	209	1	No Gas	0.064	ug/l	3902.82
[Pb]	207	209	1	No Gas	0.069	ug/l	3201.51
Pb	208	209	1	No Gas	0.069	ug/l	15008.95
Th	232	209	3	He	0.675	ug/l	9982.51
U	238	209	1	No Gas	0.057	ug/l	1800.77

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2643451.71	103.3
Sc	45	2	H2	1319931.64	97.3
Sc	45	3	He	160647.00	100.7
Ge	72	1	No Gas	682110.45	101.8
Ge	72	2	H2	444564.68	97.6
Ge	72	3	He	99022.61	97.2
In	115	1	No Gas	4299462.69	94.2
In	115	3	He	1028789.03	96.9
Tb	159	1	No Gas	6023644.42	95.0
Tb	159	3	He	2535692.06	95.7
Ho	165	1	No Gas	5891357.82	94.2
Ho	165	3	He	2493698.14	94.4
Lu	175	1	No Gas	5929760.07	93.5
Lu	175	3	He	2095285.34	94.6
Bi	209	1	No Gas	4166645.55	95.3
Bi	209	3	He	1844642.47	91.9

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 018BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:11:43
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	1.196	ug/l	20171.44
Be	9	45	1	No Gas	-0.012	ug/l	448.25
B	11	45	1	No Gas	5.048	ug/l	9498.80
Na	23	45	3	He	-7.817	ug/l	43067.00
Mg	24	45	3	He	-0.275	ug/l	3167.41
Al	27	45	1	No Gas	0.656	ug/l	55875.94
Si	28	45	2	H2	-2.094	ug/l	5774.77
K	39	72	3	He	19.110	ug/l	124549.68
Ca	40	72	2	H2	2.854	ug/l	126221.17
Ti	47	72	1	No Gas	-0.003	ug/l	268.61
V	51	72	1	No Gas	5.090	ug/l	-43862.34
V	51	72	3	He	-6.155	ug/l	32634.99
Cr	52	72	1	No Gas	-0.664	ug/l	109809.40
Cr	52	72	3	He	-0.012	ug/l	935.59
Mn	55	72	1	No Gas	0.005	ug/l	16143.52
Mn	55	72	3	He	-0.005	ug/l	155.97
Fe	56	72	2	H2	-0.411	ug/l	10981.85
Fe	56	72	3	He	-0.343	ug/l	6170.86
Co	59	72	1	No Gas	-0.003	ug/l	525.63
Ni	60	72	1	No Gas	0.007	ug/l	715.27
Ni	60	72	3	He	-0.045	ug/l	77.78
Cu	63	72	1	No Gas	0.192	ug/l	3335.72
Cu	63	72	3	He	0.033	ug/l	507.58
Cu	65	72	1	No Gas	0.052	ug/l	800.35
Zn	66	72	1	No Gas	-0.015	ug/l	411.82
Zn	66	72	3	He	-0.024	ug/l	107.78
As	75	72	1	No Gas	-3.728	ug/l	13304.63
As	75	72	3	He	0.050	ug/l	602.60
Se	78	72	2	H2	0.078	ug/l	63.44
Br	79	72	1	No Gas	1.816	ug/l	17296.16
Br	79	72	2	H2	1.437	ug/l	8156.18
Se	82	72	1	No Gas	-0.122	ug/l	648.08
Kr	84	72	1	No Gas		ug/l	19467.86
Sr	88	72	1	No Gas	0.002	ug/l	306.06
Sr	88	72	3	He	0.010	ug/l	76.67
Mo	95	115	1	No Gas	0.002	ug/l	40.00
Mo	95	115	3	He	0.006	ug/l	16.67
Mo	98	115	1	No Gas	0.007	ug/l	75.56
Ag	107	115	1	No Gas	0.001	ug/l	859.04
Ag	109	115	1	No Gas	-0.002	ug/l	817.69
Cd	111	115	1	No Gas	0.028	ug/l	61.80

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.015	ug/l	17.00
Cd	114	115	1	No Gas	0.019	ug/l	39.63
Cd	114	115	3	He	0.013	ug/l	37.29
Sn	118	115	1	No Gas	-0.051	ug/l	2152.57
Sn	118	115	3	He	-0.021	ug/l	520.01
Sb	121	115	1	No Gas	0.017	ug/l	344.04
Sb	121	115	3	He	0.019	ug/l	94.01
Sb	123	115	1	No Gas	0.019	ug/l	282.03
Sb	123	115	3	He	0.018	ug/l	71.68
Ba	135	115	1	No Gas	0.004	ug/l	23.29
Ba	137	115	1	No Gas	0.007	ug/l	56.55
La	139	115	3	He	0.000	ug/l	12.22
Ce	140	115	3	He	0.000	ug/l	10.00
Hg	201	209	1	No Gas	0.001	ug/l	13.67
Hg	202	209	1	No Gas	0.007	ug/l	43.66
Hg	202	209	3	He	0.003	ug/l	13.67
Tl	203	209	3	He	0.099	ug/l	727.65
Tl	205	209	1	No Gas	0.093	ug/l	3459.36
Tl	205	209	3	He	0.103	ug/l	1780.17
[Pb]	206	209	1	No Gas	-0.021	ug/l	3225.97
[Pb]	207	209	1	No Gas	-0.004	ug/l	2693.62
Pb	208	209	1	No Gas	0.001	ug/l	12816.99
Th	232	209	3	He	0.105	ug/l	1701.46
U	238	209	1	No Gas	0.010	ug/l	339.94

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2664415.07	104.1
Sc	45	2	H2	1356343.30	100.0
Sc	45	3	He	164701.23	103.2
Ge	72	1	No Gas	667308.01	99.6
Ge	72	2	H2	446583.68	98.0
Ge	72	3	He	102110.85	100.2
In	115	1	No Gas	4456550.68	97.7
In	115	3	He	1026837.56	96.7
Tb	159	1	No Gas	6161404.36	97.1
Tb	159	3	He	2550263.56	96.2
Ho	165	1	No Gas	5946396.86	95.1
Ho	165	3	He	2500094.61	94.7
Lu	175	1	No Gas	6033279.37	95.1
Lu	175	3	He	2105966.41	95.1
Bi	209	1	No Gas	4145735.61	94.8
Bi	209	3	He	1889662.69	94.2

ICPMS207-B Analytical Data

Sample Name QCS
File Name 019_QC1.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:17:57
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	52.029	ug/l	328616.42
Be	9	45	1	No Gas	24.671	ug/l	70431.78
B	11	45	1	No Gas	57.714	ug/l	92278.44
Na	23	45	3	He	2578.445	ug/l	1349740.81
Mg	24	45	3	He	2565.500	ug/l	734280.47
Al	27	45	1	No Gas	257.910	ug/l	3131424.95
Si	28	45	2	H2	494.547	ug/l	635235.55
K	39	72	3	He	2655.191	ug/l	847966.53
Ca	40	72	2	H2	2624.219	ug/l	11859282.82
Ti	47	72	1	No Gas	49.377	ug/l	56886.25
V	51	72	1	No Gas	54.410	ug/l	659001.98
V	51	72	3	He	44.650	ug/l	150711.52
Cr	52	72	1	No Gas	52.294	ug/l	775372.85
Cr	52	72	3	He	51.404	ug/l	132010.42
Mn	55	72	1	No Gas	262.710	ug/l	4402173.01
Mn	55	72	3	He	265.013	ug/l	443996.94
Fe	56	72	2	H2	255.686	ug/l	2154989.55
Fe	56	72	3	He	263.018	ug/l	600618.71
Co	59	72	1	No Gas	51.250	ug/l	716164.18
Ni	60	72	1	No Gas	53.708	ug/l	161014.98
Ni	60	72	3	He	51.913	ug/l	50390.90
Cu	63	72	1	No Gas	53.427	ug/l	401700.55
Cu	63	72	3	He	53.913	ug/l	134912.71
Cu	65	72	1	No Gas	54.606	ug/l	188520.92
Zn	66	72	1	No Gas	57.099	ug/l	138333.04
Zn	66	72	3	He	55.605	ug/l	31850.30
As	75	72	1	No Gas	50.295	ug/l	184540.16
As	75	72	3	He	50.812	ug/l	29683.31
Se	78	72	2	H2	50.852	ug/l	16431.26
Br	79	72	1	No Gas	0.494	ug/l	8672.07
Br	79	72	2	H2	0.551	ug/l	4751.37
Se	82	72	1	No Gas	51.865	ug/l	10213.50
Kr	84	72	1	No Gas		ug/l	26511.73
Sr	88	72	1	No Gas	52.306	ug/l	1127389.52
Sr	88	72	3	He	52.774	ug/l	137283.55
Mo	95	115	1	No Gas	48.140	ug/l	205939.01
Mo	95	115	3	He	48.059	ug/l	75340.89
Mo	98	115	1	No Gas	47.431	ug/l	330385.55
Ag	107	115	1	No Gas	24.544	ug/l	279320.89
Ag	109	115	1	No Gas	24.291	ug/l	264706.70
Cd	111	115	1	No Gas	26.079	ug/l	62159.45

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	25.185	ug/l	21097.04
Cd	114	115	1	No Gas	25.107	ug/l	139995.96
Cd	114	115	3	He	25.754	ug/l	51307.68
Sn	118	115	1	No Gas	47.286	ug/l	351532.24
Sn	118	115	3	He	48.990	ug/l	99561.75
Sb	121	115	1	No Gas	43.918	ug/l	527688.13
Sb	121	115	3	He	47.073	ug/l	156926.40
Sb	123	115	1	No Gas	43.960	ug/l	406496.80
Sb	123	115	3	He	47.172	ug/l	123981.70
Ba	135	115	1	No Gas	54.404	ug/l	123633.18
Ba	137	115	1	No Gas	54.721	ug/l	213864.07
La	139	115	3	He	49.502	ug/l	570651.25
Ce	140	115	3	He	49.668	ug/l	624697.74
Hg	201	209	1	No Gas	0.947	ug/l	1611.78
Hg	202	209	1	No Gas	0.951	ug/l	3632.77
Hg	202	209	3	He	0.942	ug/l	1714.77
Tl	203	209	3	He	50.324	ug/l	215298.22
Tl	205	209	1	No Gas	50.048	ug/l	1090241.90
Tl	205	209	3	He	48.324	ug/l	514322.38
[Pb]	206	209	1	No Gas	49.053	ug/l	381748.90
[Pb]	207	209	1	No Gas	48.557	ug/l	327135.57
Pb	208	209	1	No Gas	49.220	ug/l	1521157.55
Th	232	209	3	He	46.645	ug/l	703363.42
U	238	209	1	No Gas	51.170	ug/l	1563683.10

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2631461.26	102.8
Sc	45	2	H2	1358966.52	100.2
Sc	45	3	He	167566.41	105.0
Ge	72	1	No Gas	680643.88	101.6
Ge	72	2	H2	454038.83	99.7
Ge	72	3	He	104834.65	102.9
In	115	1	No Gas	4313261.52	94.5
In	115	3	He	1065850.79	100.4
Tb	159	1	No Gas	6188635.03	97.6
Tb	159	3	He	2608072.62	98.4
Ho	165	1	No Gas	5976479.71	95.6
Ho	165	3	He	2571095.09	97.4
Lu	175	1	No Gas	6057012.84	95.5
Lu	175	3	He	2139645.33	96.6
Bi	209	1	No Gas	4091481.98	93.6
Bi	209	3	He	1901945.15	94.8

ICPMS207-B Analytical Data

Sample Name CCV
File Name 020_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:24:10
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	608.669	ug/l	3659901.87
Be	9	45	1	No Gas	53.621	ug/l	150524.29
B	11	45	1	No Gas	56.672	ug/l	89428.83
Na	23	45	3	He	12603.646	ug/l	6344956.02
Mg	24	45	3	He	12494.524	ug/l	3527057.49
Al	27	45	1	No Gas	53.570	ug/l	678796.69
Si	28	45	2	H2	211.108	ug/l	280874.02
K	39	72	3	He	12627.778	ug/l	3579951.27
Ca	40	72	2	H2	12601.063	ug/l	57427488.80
Ti	47	72	1	No Gas	53.525	ug/l	61961.51
V	51	72	1	No Gas	62.973	ug/l	784533.49
V	51	72	3	He	47.445	ug/l	157495.99
Cr	52	72	1	No Gas	56.101	ug/l	827285.87
Cr	52	72	3	He	55.158	ug/l	141871.83
Mn	55	72	1	No Gas	54.599	ug/l	932693.17
Mn	55	72	3	He	55.993	ug/l	94138.99
Fe	56	72	2	H2	1272.304	ug/l	10836622.49
Fe	56	72	3	He	1305.575	ug/l	2960204.58
Co	59	72	1	No Gas	54.260	ug/l	762160.48
Ni	60	72	1	No Gas	57.554	ug/l	173414.86
Ni	60	72	3	He	54.873	ug/l	53371.40
Cu	63	72	1	No Gas	56.051	ug/l	423549.37
Cu	63	72	3	He	56.362	ug/l	141326.98
Cu	65	72	1	No Gas	56.904	ug/l	197448.76
Zn	66	72	1	No Gas	58.156	ug/l	141621.61
Zn	66	72	3	He	55.800	ug/l	32029.61
As	75	72	1	No Gas	54.536	ug/l	198961.25
As	75	72	3	He	55.055	ug/l	32183.49
Se	78	72	2	H2	54.208	ug/l	17795.42
Br	79	72	1	No Gas	0.327	ug/l	7576.97
Br	79	72	2	H2	0.459	ug/l	4455.21
Se	82	72	1	No Gas	55.546	ug/l	10946.48
Kr	84	72	1	No Gas		ug/l	27881.56
Sr	88	72	1	No Gas	56.252	ug/l	1218701.30
Sr	88	72	3	He	56.217	ug/l	146545.70
Mo	95	115	1	No Gas	51.462	ug/l	216922.00
Mo	95	115	3	He	51.606	ug/l	79914.51
Mo	98	115	1	No Gas	52.251	ug/l	358619.99
Ag	107	115	1	No Gas	21.007	ug/l	235692.22
Ag	109	115	1	No Gas	20.847	ug/l	223947.55
Cd	111	115	1	No Gas	56.964	ug/l	133780.29

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.437	ug/l	45043.11
Cd	114	115	1	No Gas	54.509	ug/l	299553.28
Cd	114	115	3	He	55.531	ug/l	109276.20
Sn	118	115	1	No Gas	50.241	ug/l	367858.54
Sn	118	115	3	He	52.833	ug/l	106030.28
Sb	121	115	1	No Gas	53.808	ug/l	637027.06
Sb	121	115	3	He	52.492	ug/l	172846.48
Sb	123	115	1	No Gas	53.378	ug/l	486325.83
Sb	123	115	3	He	52.741	ug/l	136928.35
Ba	135	115	1	No Gas	55.765	ug/l	124849.59
Ba	137	115	1	No Gas	56.164	ug/l	216245.19
La	139	115	3	He	49.074	ug/l	558856.27
Ce	140	115	3	He	48.634	ug/l	604314.66
Hg	201	209	1	No Gas	0.959	ug/l	1585.45
Hg	202	209	1	No Gas	0.995	ug/l	3689.78
Hg	202	209	3	He	1.017	ug/l	1805.10
Tl	203	209	3	He	54.413	ug/l	227005.58
Tl	205	209	1	No Gas	53.302	ug/l	1128462.44
Tl	205	209	3	He	52.939	ug/l	549636.83
[Pb]	206	209	1	No Gas	53.119	ug/l	401559.49
[Pb]	207	209	1	No Gas	53.234	ug/l	348369.28
Pb	208	209	1	No Gas	53.589	ug/l	1608798.80
Th	232	209	3	He	51.809	ug/l	762059.93
U	238	209	1	No Gas	52.303	ug/l	1553639.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2594159.12	101.4
Sc	45	2	H2	1383165.74	102.0
Sc	45	3	He	165859.49	104.0
Ge	72	1	No Gas	684046.23	102.1
Ge	72	2	H2	461332.85	101.3
Ge	72	3	He	105074.20	103.1
In	115	1	No Gas	4249259.29	93.1
In	115	3	He	1052927.67	99.2
Tb	159	1	No Gas	6032257.36	95.1
Tb	159	3	He	2547543.52	96.1
Ho	165	1	No Gas	5965276.16	95.4
Ho	165	3	He	2527629.47	95.7
Lu	175	1	No Gas	6015569.37	94.8
Lu	175	3	He	2131696.94	96.3
Bi	209	1	No Gas	3976182.87	90.9
Bi	209	3	He	1855778.21	92.5

ICPMS207-B Analytical Data

Sample Name CCB
File Name 021_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:30:25
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	0.674	ug/l	17142.53
Be	9	45	1	No Gas	-0.051	ug/l	339.27
B	11	45	1	No Gas	2.514	ug/l	5515.89
Na	23	45	3	He	-4.140	ug/l	45224.40
Mg	24	45	3	He	-2.880	ug/l	2455.34
Al	27	45	1	No Gas	-1.765	ug/l	26880.99
Si	28	45	2	H2	-2.433	ug/l	5612.01
K	39	72	3	He	-11.679	ug/l	119341.03
Ca	40	72	2	H2	1.379	ug/l	127161.02
Ti	47	72	1	No Gas	-0.027	ug/l	245.25
V	51	72	1	No Gas	3.906	ug/l	-60626.23
V	51	72	3	He	-6.847	ug/l	31878.93
Cr	52	72	1	No Gas	-1.437	ug/l	101962.97
Cr	52	72	3	He	-0.035	ug/l	900.04
Mn	55	72	1	No Gas	-0.049	ug/l	15510.77
Mn	55	72	3	He	-0.014	ug/l	144.64
Fe	56	72	2	H2	-0.518	ug/l	10728.06
Fe	56	72	3	He	-0.388	ug/l	6225.93
Co	59	72	1	No Gas	-0.007	ug/l	472.41
Ni	60	72	1	No Gas	-0.010	ug/l	678.67
Ni	60	72	3	He	-0.056	ug/l	68.89
Cu	63	72	1	No Gas	0.150	ug/l	3078.23
Cu	63	72	3	He	0.016	ug/l	479.58
Cu	65	72	1	No Gas	0.020	ug/l	704.30
Zn	66	72	1	No Gas	-0.040	ug/l	358.87
Zn	66	72	3	He	-0.064	ug/l	87.78
As	75	72	1	No Gas	-4.418	ug/l	11365.22
As	75	72	3	He	-0.107	ug/l	528.00
Se	78	72	2	H2	0.045	ug/l	56.22
Br	79	72	1	No Gas	0.188	ug/l	6568.51
Br	79	72	2	H2	0.192	ug/l	3470.21
Se	82	72	1	No Gas	-0.495	ug/l	590.74
Kr	84	72	1	No Gas		ug/l	19014.91
Sr	88	72	1	No Gas	0.003	ug/l	322.70
Sr	88	72	3	He	0.004	ug/l	64.45
Mo	95	115	1	No Gas	0.030	ug/l	161.11
Mo	95	115	3	He	0.028	ug/l	53.33
Mo	98	115	1	No Gas	0.029	ug/l	232.85
Ag	107	115	1	No Gas	0.003	ug/l	872.38
Ag	109	115	1	No Gas	0.002	ug/l	859.04
Cd	111	115	1	No Gas	0.013	ug/l	24.73

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.037	ug/l	36.78
Cd	114	115	1	No Gas	0.008	ug/l	-26.38
Cd	114	115	3	He	0.002	ug/l	17.74
Sn	118	115	1	No Gas	-0.026	ug/l	2338.90
Sn	118	115	3	He	0.032	ug/l	660.02
Sb	121	115	1	No Gas	0.076	ug/l	1062.48
Sb	121	115	3	He	0.058	ug/l	231.03
Sb	123	115	1	No Gas	0.073	ug/l	794.11
Sb	123	115	3	He	0.055	ug/l	174.69
Ba	135	115	1	No Gas	0.006	ug/l	26.61
Ba	137	115	1	No Gas	-0.001	ug/l	26.61
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.001	ug/l	18.89
Hg	201	209	1	No Gas	0.009	ug/l	25.99
Hg	202	209	1	No Gas	0.015	ug/l	73.32
Hg	202	209	3	He	0.010	ug/l	25.66
Tl	203	209	3	He	0.105	ug/l	780.34
Tl	205	209	1	No Gas	0.112	ug/l	3759.45
Tl	205	209	3	He	0.103	ug/l	1856.21
[Pb]	206	209	1	No Gas	-0.007	ug/l	3231.52
[Pb]	207	209	1	No Gas	-0.012	ug/l	2558.04
Pb	208	209	1	No Gas	-0.004	ug/l	12291.19
Th	232	209	3	He	0.095	ug/l	1598.07
U	238	209	1	No Gas	0.006	ug/l	201.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2694447.09	105.3
Sc	45	2	H2	1423064.05	104.9
Sc	45	3	He	165910.26	104.0
Ge	72	1	No Gas	678100.59	101.2
Ge	72	2	H2	474289.27	104.1
Ge	72	3	He	104751.72	102.8
In	115	1	No Gas	4442218.39	97.4
In	115	3	He	1086580.52	102.3
Tb	159	1	No Gas	6003631.60	94.6
Tb	159	3	He	2650601.94	100.0
Ho	165	1	No Gas	5921468.45	94.7
Ho	165	3	He	2642008.50	100.1
Lu	175	1	No Gas	5934249.30	93.6
Lu	175	3	He	2225891.67	100.5
Bi	209	1	No Gas	4022056.05	92.0
Bi	209	3	He	1960212.55	97.7

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 022BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:36:40
Sample Type BkVrfy
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	0.054	ug/l	12896.63
Be	9	45	1	No Gas	-0.064	ug/l	293.94
B	11	45	1	No Gas	1.706	ug/l	4091.53
Na	23	45	3	He	-7.378	ug/l	43880.49
Mg	24	45	3	He	-1.988	ug/l	2724.84
Al	27	45	1	No Gas	-1.768	ug/l	26054.86
Si	28	45	2	H2	-2.603	ug/l	5473.21
K	39	72	3	He	-27.189	ug/l	116414.75
Ca	40	72	2	H2	1.480	ug/l	131021.12
Ti	47	72	1	No Gas	-0.058	ug/l	213.55
V	51	72	1	No Gas	4.537	ug/l	-52074.80
V	51	72	3	He	-6.949	ug/l	31996.97
Cr	52	72	1	No Gas	-1.906	ug/l	97708.91
Cr	52	72	3	He	-0.033	ug/l	916.70
Mn	55	72	1	No Gas	-0.079	ug/l	15270.95
Mn	55	72	3	He	-0.015	ug/l	144.64
Fe	56	72	2	H2	-0.561	ug/l	10626.22
Fe	56	72	3	He	-0.519	ug/l	6000.61
Co	59	72	1	No Gas	-0.006	ug/l	499.02
Ni	60	72	1	No Gas	-0.054	ug/l	555.58
Ni	60	72	3	He	-0.046	ug/l	80.00
Cu	63	72	1	No Gas	0.107	ug/l	2806.07
Cu	63	72	3	He	-0.001	ug/l	440.92
Cu	65	72	1	No Gas	0.008	ug/l	672.95
Zn	66	72	1	No Gas	-0.040	ug/l	365.69
Zn	66	72	3	He	-0.020	ug/l	114.45
As	75	72	1	No Gas	-2.750	ug/l	16906.76
As	75	72	3	He	-0.115	ug/l	529.60
Se	78	72	2	H2	0.019	ug/l	48.78
Br	79	72	1	No Gas	0.114	ug/l	6172.43
Br	79	72	2	H2	0.165	ug/l	3446.92
Se	82	72	1	No Gas	0.260	ug/l	740.22
Kr	84	72	1	No Gas		ug/l	19278.02
Sr	88	72	1	No Gas	-0.001	ug/l	242.86
Sr	88	72	3	He	0.001	ug/l	56.67
Mo	95	115	1	No Gas	0.006	ug/l	55.55
Mo	95	115	3	He	0.006	ug/l	17.78
Mo	98	115	1	No Gas	0.007	ug/l	74.58
Ag	107	115	1	No Gas	0.006	ug/l	895.72
Ag	109	115	1	No Gas	0.004	ug/l	866.37
Cd	111	115	1	No Gas	0.002	ug/l	-2.24

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	8.33
Cd	114	115	1	No Gas	0.005	ug/l	-42.04
Cd	114	115	3	He	0.001	ug/l	15.52
Sn	118	115	1	No Gas	-0.056	ug/l	2082.70
Sn	118	115	3	He	-0.030	ug/l	532.24
Sb	121	115	1	No Gas	0.030	ug/l	491.39
Sb	121	115	3	He	0.029	ug/l	133.35
Sb	123	115	1	No Gas	0.029	ug/l	368.04
Sb	123	115	3	He	0.030	ug/l	108.68
Ba	135	115	1	No Gas	0.009	ug/l	33.27
Ba	137	115	1	No Gas	0.000	ug/l	29.94
La	139	115	3	He	-0.001	ug/l	5.56
Ce	140	115	3	He	0.001	ug/l	15.56
Hg	201	209	1	No Gas	0.004	ug/l	18.00
Hg	202	209	1	No Gas	0.008	ug/l	47.32
Hg	202	209	3	He	0.007	ug/l	21.33
Tl	203	209	3	He	0.029	ug/l	448.86
Tl	205	209	1	No Gas	0.036	ug/l	2107.96
Tl	205	209	3	He	0.032	ug/l	1084.48
[Pb]	206	209	1	No Gas	-0.018	ug/l	3120.38
[Pb]	207	209	1	No Gas	-0.011	ug/l	2542.48
Pb	208	209	1	No Gas	-0.017	ug/l	11778.76
Th	232	209	3	He	0.039	ug/l	738.99
U	238	209	1	No Gas	0.002	ug/l	99.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2614591.95	102.2
Sc	45	2	H2	1446663.42	106.7
Sc	45	3	He	166951.49	104.6
Ge	72	1	No Gas	689787.79	103.0
Ge	72	2	H2	486874.63	106.9
Ge	72	3	He	105925.66	104.0
In	115	1	No Gas	4386244.03	96.1
In	115	3	He	1086424.67	102.3
Tb	159	1	No Gas	6219696.72	98.0
Tb	159	3	He	2618296.98	98.8
Ho	165	1	No Gas	5993871.73	95.8
Ho	165	3	He	2621835.81	99.3
Lu	175	1	No Gas	5846827.67	92.2
Lu	175	3	He	2218045.67	100.2
Bi	209	1	No Gas	3982845.35	91.1
Bi	209	3	He	1977343.89	98.5

ICPMS207-B Analytical Data

Sample Name LRB
File Name 023MBLK.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:42:54
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	-0.109	ug/l	12160.41
Be	9	45	1	No Gas	-0.068	ug/l	285.95
B	11	45	1	No Gas	1.233	ug/l	3422.44
Na	23	45	3	He	-0.921	ug/l	47113.54
Mg	24	45	3	He	-1.587	ug/l	2837.98
Al	27	45	1	No Gas	-1.751	ug/l	26801.71
Si	28	45	2	H2	-2.452	ug/l	5587.96
K	39	72	3	He	-24.950	ug/l	116378.86
Ca	40	72	2	H2	4.736	ug/l	144059.17
Ti	47	72	1	No Gas	-0.032	ug/l	238.58
V	51	72	1	No Gas	1.611	ug/l	-93030.67
V	51	72	3	He	-6.499	ug/l	32865.53
Cr	52	72	1	No Gas	-1.718	ug/l	98129.42
Cr	52	72	3	He	-0.005	ug/l	982.26
Mn	55	72	1	No Gas	-0.047	ug/l	15484.19
Mn	55	72	3	He	-0.007	ug/l	158.30
Fe	56	72	2	H2	-0.517	ug/l	10828.25
Fe	56	72	3	He	-0.510	ug/l	5983.91
Co	59	72	1	No Gas	-0.006	ug/l	492.37
Ni	60	72	1	No Gas	-0.031	ug/l	612.13
Ni	60	72	3	He	-0.053	ug/l	72.22
Cu	63	72	1	No Gas	0.117	ug/l	2826.08
Cu	63	72	3	He	0.025	ug/l	504.91
Cu	65	72	1	No Gas	0.037	ug/l	758.99
Zn	66	72	1	No Gas	0.123	ug/l	748.19
Zn	66	72	3	He	0.121	ug/l	194.45
As	75	72	1	No Gas	-3.765	ug/l	13391.40
As	75	72	3	He	-0.098	ug/l	536.33
Se	78	72	2	H2	0.011	ug/l	45.22
Br	79	72	1	No Gas	9.524	ug/l	69478.15
Br	79	72	2	H2	9.248	ug/l	41563.65
Se	82	72	1	No Gas	0.375	ug/l	747.95
Kr	84	72	1	No Gas		ug/l	18728.34
Sr	88	72	1	No Gas	0.003	ug/l	329.35
Sr	88	72	3	He	0.024	ug/l	115.55
Mo	95	115	1	No Gas	0.007	ug/l	57.78
Mo	95	115	3	He	0.005	ug/l	15.56
Mo	98	115	1	No Gas	0.003	ug/l	46.25
Ag	107	115	1	No Gas	-0.062	ug/l	116.71
Ag	109	115	1	No Gas	-0.065	ug/l	104.04
Cd	111	115	1	No Gas	0.008	ug/l	13.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	11.11
Cd	114	115	1	No Gas	0.017	ug/l	27.47
Cd	114	115	3	He	0.005	ug/l	23.36
Sn	118	115	1	No Gas	-0.075	ug/l	1942.96
Sn	118	115	3	He	-0.005	ug/l	583.35
Sb	121	115	1	No Gas	0.019	ug/l	355.04
Sb	121	115	3	He	0.019	ug/l	101.01
Sb	123	115	1	No Gas	0.019	ug/l	277.03
Sb	123	115	3	He	0.021	ug/l	85.01
Ba	135	115	1	No Gas	0.022	ug/l	63.21
Ba	137	115	1	No Gas	0.019	ug/l	103.13
La	139	115	3	He	-0.001	ug/l	8.89
Ce	140	115	3	He	0.001	ug/l	14.44
Hg	201	209	1	No Gas	0.005	ug/l	19.00
Hg	202	209	1	No Gas	0.008	ug/l	44.32
Hg	202	209	3	He	0.002	ug/l	12.33
Tl	203	209	3	He	0.022	ug/l	416.18
Tl	205	209	1	No Gas	0.021	ug/l	1761.24
Tl	205	209	3	He	0.017	ug/l	916.40
[Pb]	206	209	1	No Gas	-0.025	ug/l	3012.58
[Pb]	207	209	1	No Gas	-0.013	ug/l	2488.03
Pb	208	209	1	No Gas	-0.015	ug/l	11638.72
Th	232	209	3	He	0.026	ug/l	530.23
U	238	209	1	No Gas	0.001	ug/l	69.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2669603.81	104.3
Sc	45	2	H2	1424055.29	105.0
Sc	45	3	He	166897.47	104.6
Ge	72	1	No Gas	675842.94	100.9
Ge	72	2	H2	478266.90	105.0
Ge	72	3	He	105341.91	103.4
In	115	1	No Gas	4398560.95	96.4
In	115	3	He	1087548.15	102.4
Tb	159	1	No Gas	6083481.34	95.9
Tb	159	3	He	2645118.65	99.8
Ho	165	1	No Gas	5935428.45	94.9
Ho	165	3	He	2615855.19	99.1
Lu	175	1	No Gas	5872598.90	92.6
Lu	175	3	He	2216964.23	100.1
Bi	209	1	No Gas	3916657.55	89.6
Bi	209	3	He	1967191.06	98.0

ICPMS207-B Analytical Data

Sample Name LFB
File Name 024_LFB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:49:09
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	1943.601	ug/l	11160201.66
Be	9	45	1	No Gas	39.969	ug/l	107514.58
B	11	45	1	No Gas	43.099	ug/l	65459.89
Na	23	45	3	He	48068.964	ug/l	22540106.33
Mg	24	45	3	He	49535.622	ug/l	13085553.50
Al	27	45	1	No Gas	44.575	ug/l	549293.24
Si	28	45	2	H2	189.442	ug/l	245466.21
K	39	72	3	He	50300.670	ug/l	13035176.33
Ca	40	72	2	H2	48349.644	ug/l	218281390.37
Ti	47	72	1	No Gas	50.898	ug/l	57107.36
V	51	72	1	No Gas	54.996	ug/l	647458.10
V	51	72	3	He	43.830	ug/l	141251.45
Cr	52	72	1	No Gas	49.429	ug/l	723593.40
Cr	52	72	3	He	49.387	ug/l	119289.77
Mn	55	72	1	No Gas	48.099	ug/l	798528.71
Mn	55	72	3	He	50.932	ug/l	80346.26
Fe	56	72	2	H2	4885.687	ug/l	41251008.31
Fe	56	72	3	He	5088.390	ug/l	10800696.36
Co	59	72	1	No Gas	47.501	ug/l	646590.77
Ni	60	72	1	No Gas	48.862	ug/l	142781.34
Ni	60	72	3	He	49.657	ug/l	45316.61
Cu	63	72	1	No Gas	47.520	ug/l	348217.43
Cu	63	72	3	He	50.932	ug/l	119842.52
Cu	65	72	1	No Gas	49.103	ug/l	165220.95
Zn	66	72	1	No Gas	50.226	ug/l	118572.57
Zn	66	72	3	He	51.360	ug/l	27667.38
As	75	72	1	No Gas	48.566	ug/l	175092.11
As	75	72	3	He	51.077	ug/l	28062.55
Se	78	72	2	H2	48.927	ug/l	15941.94
Br	79	72	1	No Gas	11.014	ug/l	78185.69
Br	79	72	2	H2	10.832	ug/l	46231.90
Se	82	72	1	No Gas	48.968	ug/l	9450.08
Kr	84	72	1	No Gas		ug/l	25308.63
Sr	88	72	1	No Gas	49.590	ug/l	1040843.66
Sr	88	72	3	He	52.506	ug/l	128388.35
Mo	95	115	1	No Gas	47.724	ug/l	188152.15
Mo	95	115	3	He	49.155	ug/l	70766.81
Mo	98	115	1	No Gas	47.469	ug/l	304717.65
Ag	107	115	1	No Gas	19.391	ug/l	203549.99
Ag	109	115	1	No Gas	19.551	ug/l	196477.11
Cd	111	115	1	No Gas	49.875	ug/l	109555.06

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.192	ug/l	38608.50
Cd	114	115	1	No Gas	47.833	ug/l	245849.87
Cd	114	115	3	He	51.612	ug/l	94413.63
Sn	118	115	1	No Gas	46.714	ug/l	320142.13
Sn	118	115	3	He	50.232	ug/l	93749.09
Sb	121	115	1	No Gas	47.149	ug/l	522105.19
Sb	121	115	3	He	49.291	ug/l	150895.06
Sb	123	115	1	No Gas	47.214	ug/l	402368.90
Sb	123	115	3	He	49.295	ug/l	118979.01
Ba	135	115	1	No Gas	49.234	ug/l	103106.21
Ba	137	115	1	No Gas	50.924	ug/l	183388.17
La	139	115	3	He	0.003	ug/l	50.00
Ce	140	115	3	He	50.684	ug/l	585491.23
Hg	201	209	1	No Gas	0.930	ug/l	1377.13
Hg	202	209	1	No Gas	0.990	ug/l	3292.42
Hg	202	209	3	He	0.984	ug/l	1632.78
Tl	203	209	3	He	49.972	ug/l	195081.29
Tl	205	209	1	No Gas	47.687	ug/l	904714.96
Tl	205	209	3	He	47.761	ug/l	463892.31
[Pb]	206	209	1	No Gas	47.348	ug/l	321000.75
[Pb]	207	209	1	No Gas	47.449	ug/l	278474.90
Pb	208	209	1	No Gas	47.728	ug/l	1285048.81
Th	232	209	3	He	47.837	ug/l	658111.24
U	238	209	1	No Gas	47.861	ug/l	1273505.59

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2558662.25	100.0
Sc	45	2	H2	1381115.47	101.9
Sc	45	3	He	159946.51	100.3
Ge	72	1	No Gas	682738.81	101.9
Ge	72	2	H2	471451.75	103.5
Ge	72	3	He	101503.22	99.6
In	115	1	No Gas	4093715.18	89.7
In	115	3	He	1008214.54	95.0
Tb	159	1	No Gas	5854778.48	92.3
Tb	159	3	He	2523953.68	95.2
Ho	165	1	No Gas	5642468.47	90.2
Ho	165	3	He	2550448.82	96.6
Lu	175	1	No Gas	5674088.37	89.5
Lu	175	3	He	2182304.34	98.6
Bi	209	1	No Gas	3668725.61	83.9
Bi	209	3	He	1788264.07	89.1

ICPMS207-B Analytical Data

Sample Name ICSA
File Name 025ICSA.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 14:55:25
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	2.027	ug/l	24470.11
Be	9	45	1	No Gas	-0.079	ug/l	245.95
B	11	45	1	No Gas	1.669	ug/l	3980.13
Na	23	45	3	He	98741.257	ug/l	46663879.86
Mg	24	45	3	He	40453.825	ug/l	10782178.21
Al	27	45	1	No Gas	38020.991	ug/l	445789931.13
Si	28	45	2	H2	-0.372	ug/l	7856.08
K	39	72	3	He	39804.755	ug/l	10512098.25
Ca	40	72	2	H2	119663.957	ug/l	522556124.38
Ti	47	72	1	No Gas	792.440	ug/l	889127.64
V	51	72	1	No Gas	6.592	ug/l	-22730.14
V	51	72	3	He	-17.324	ug/l	7397.45
Cr	52	72	1	No Gas	-3.978	ug/l	69071.48
Cr	52	72	3	He	0.869	ug/l	3064.79
Mn	55	72	1	No Gas	0.084	ug/l	17399.14
Mn	55	72	3	He	0.215	ug/l	506.24
Fe	56	72	2	H2	100704.882	ug/l	822268746.45
Fe	56	72	3	He	102412.335	ug/l	220926370.25
Co	59	72	1	No Gas	0.339	ug/l	5193.98
Ni	60	72	1	No Gas	0.858	ug/l	3200.69
Ni	60	72	3	He	0.163	ug/l	268.89
Cu	63	72	1	No Gas	3.675	ug/l	28725.30
Cu	63	72	3	He	0.056	ug/l	554.23
Cu	65	72	1	No Gas	0.744	ug/l	3128.26
Zn	66	72	1	No Gas	1.191	ug/l	3260.06
Zn	66	72	3	He	0.580	ug/l	435.57
As	75	72	1	No Gas	-4.707	ug/l	10167.27
As	75	72	3	He	-0.301	ug/l	399.00
Se	78	72	2	H2	0.474	ug/l	187.44
Br	79	72	1	No Gas	1.026	ug/l	12017.86
Br	79	72	2	H2	0.532	ug/l	4561.67
Se	82	72	1	No Gas	-0.556	ug/l	568.74
Kr	84	72	1	No Gas		ug/l	18668.46
Sr	88	72	1	No Gas	1.263	ug/l	26895.19
Sr	88	72	3	He	1.278	ug/l	3228.16
Mo	95	115	1	No Gas	756.152	ug/l	3192832.77
Mo	95	115	3	He	800.781	ug/l	1167055.85
Mo	98	115	1	No Gas	780.947	ug/l	5369523.95
Ag	107	115	1	No Gas	0.005	ug/l	863.71
Ag	109	115	1	No Gas	0.002	ug/l	821.69
Cd	111	115	1	No Gas	0.049	ug/l	108.05

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.220	ug/l	176.33
Cd	114	115	1	No Gas	0.057	ug/l	244.83
Cd	114	115	3	He	0.163	ug/l	314.15
Sn	118	115	1	No Gas	2.173	ug/l	18269.18
Sn	118	115	3	He	2.373	ug/l	4998.79
Sb	121	115	1	No Gas	0.196	ug/l	2448.97
Sb	121	115	3	He	0.173	ug/l	569.07
Sb	123	115	1	No Gas	0.179	ug/l	1725.61
Sb	123	115	3	He	0.168	ug/l	435.72
Ba	135	115	1	No Gas	0.073	ug/l	176.32
Ba	137	115	1	No Gas	0.089	ug/l	369.28
La	139	115	3	He	0.008	ug/l	98.89
Ce	140	115	3	He	0.003	ug/l	41.11
Hg	201	209	1	No Gas	0.007	ug/l	22.33
Hg	202	209	1	No Gas	0.010	ug/l	52.99
Hg	202	209	3	He	0.009	ug/l	23.66
Tl	203	209	3	He	0.023	ug/l	388.83
Tl	205	209	1	No Gas	0.034	ug/l	2022.39
Tl	205	209	3	He	0.032	ug/l	992.44
[Pb]	206	209	1	No Gas	-0.073	ug/l	2649.17
[Pb]	207	209	1	No Gas	-0.052	ug/l	2226.87
Pb	208	209	1	No Gas	-0.062	ug/l	10226.04
Th	232	209	3	He	0.133	ug/l	2038.31
U	238	209	1	No Gas	0.005	ug/l	182.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2578220.61	100.8
Sc	45	2	H2	1339615.87	98.8
Sc	45	3	He	156695.84	98.2
Ge	72	1	No Gas	666283.65	99.5
Ge	72	2	H2	442984.27	97.2
Ge	72	3	He	100214.49	98.4
In	115	1	No Gas	4257825.58	93.3
In	115	3	He	990991.65	93.3
Tb	159	1	No Gas	6176994.48	97.4
Tb	159	3	He	2550967.44	96.2
Ho	165	1	No Gas	5941483.83	95.0
Ho	165	3	He	2588886.79	98.0
Lu	175	1	No Gas	5983156.85	94.3
Lu	175	3	He	2237412.44	101.1
Bi	209	1	No Gas	3902637.75	89.3
Bi	209	3	He	1815878.90	90.5

ICPMS207-B Analytical Data

Sample Name ICSAB
File Name 026ICSB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:01:42
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	1.036	ug/l	18138.08
Be	9	45	1	No Gas	-0.092	ug/l	206.29
B	11	45	1	No Gas	1.158	ug/l	3116.24
Na	23	45	3	He	99145.160	ug/l	46258808.20
Mg	24	45	3	He	39759.447	ug/l	10461992.33
Al	27	45	1	No Gas	36727.559	ug/l	420840842.62
Si	28	45	2	H2	-0.616	ug/l	7483.67
K	39	72	3	He	39228.466	ug/l	10335342.28
Ca	40	72	2	H2	117788.510	ug/l	519962350.70
Ti	47	72	1	No Gas	802.112	ug/l	877434.66
V	51	72	1	No Gas	27.213	ug/l	258582.46
V	51	72	3	He	2.278	ug/l	50496.19
Cr	52	72	1	No Gas	15.093	ug/l	295141.65
Cr	52	72	3	He	20.680	ug/l	51204.34
Mn	55	72	1	No Gas	20.252	ug/l	338154.71
Mn	55	72	3	He	20.476	ug/l	32857.95
Fe	56	72	2	H2	99365.254	ug/l	819950541.66
Fe	56	72	3	He	99846.256	ug/l	214846644.07
Co	59	72	1	No Gas	20.329	ug/l	271323.15
Ni	60	72	1	No Gas	21.434	ug/l	61704.14
Ni	60	72	3	He	20.716	ug/l	19242.71
Cu	63	72	1	No Gas	24.904	ug/l	179634.25
Cu	63	72	3	He	20.796	ug/l	49878.14
Cu	65	72	1	No Gas	21.313	ug/l	70562.52
Zn	66	72	1	No Gas	11.764	ug/l	27531.28
Zn	66	72	3	He	10.505	ug/l	5833.43
As	75	72	1	No Gas	6.880	ug/l	44952.70
As	75	72	3	He	9.764	ug/l	5893.81
Se	78	72	2	H2	10.495	ug/l	3374.17
Br	79	72	1	No Gas	1.007	ug/l	11601.68
Br	79	72	2	H2	0.374	ug/l	3992.65
Se	82	72	1	No Gas	10.437	ug/l	2480.45
Kr	84	72	1	No Gas		ug/l	19947.67
Sr	88	72	1	No Gas	1.296	ug/l	26878.48
Sr	88	72	3	He	1.325	ug/l	3335.96
Mo	95	115	1	No Gas	741.719	ug/l	3188131.20
Mo	95	115	3	He	792.539	ug/l	1173262.71
Mo	98	115	1	No Gas	769.756	ug/l	5386625.48
Ag	107	115	1	No Gas	4.506	ug/l	52203.24
Ag	109	115	1	No Gas	4.579	ug/l	50803.65
Cd	111	115	1	No Gas	9.847	ug/l	23579.03

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.358	ug/l	8197.47
Cd	114	115	1	No Gas	9.548	ug/l	53453.89
Cd	114	115	3	He	10.574	ug/l	19900.42
Sn	118	115	1	No Gas	1.998	ug/l	17299.73
Sn	118	115	3	He	2.300	ug/l	4938.68
Sb	121	115	1	No Gas	0.108	ug/l	1426.22
Sb	121	115	3	He	0.111	ug/l	382.38
Sb	123	115	1	No Gas	0.111	ug/l	1121.83
Sb	123	115	3	He	0.120	ug/l	322.37
Ba	135	115	1	No Gas	0.088	ug/l	212.92
Ba	137	115	1	No Gas	0.079	ug/l	339.33
La	139	115	3	He	0.008	ug/l	100.00
Ce	140	115	3	He	0.003	ug/l	46.67
Hg	201	209	1	No Gas	0.003	ug/l	16.33
Hg	202	209	1	No Gas	0.006	ug/l	38.99
Hg	202	209	3	He	0.011	ug/l	27.32
Tl	203	209	3	He	0.010	ug/l	345.48
Tl	205	209	1	No Gas	0.006	ug/l	1483.42
Tl	205	209	3	He	0.011	ug/l	799.68
[Pb]	206	209	1	No Gas	-0.073	ug/l	2726.96
[Pb]	207	209	1	No Gas	-0.075	ug/l	2144.63
Pb	208	209	1	No Gas	-0.061	ug/l	10556.17
Th	232	209	3	He	0.059	ug/l	991.77
U	238	209	1	No Gas	0.002	ug/l	79.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2519332.88	98.5
Sc	45	2	H2	1328219.30	98.0
Sc	45	3	He	154677.58	96.9
Ge	72	1	No Gas	649205.21	96.9
Ge	72	2	H2	447688.05	98.3
Ge	72	3	He	99966.90	98.1
In	115	1	No Gas	4334214.28	95.0
In	115	3	He	1006588.16	94.8
Tb	159	1	No Gas	6350530.46	100.1
Tb	159	3	He	2594339.40	97.9
Ho	165	1	No Gas	6147595.19	98.3
Ho	165	3	He	2584303.82	97.9
Lu	175	1	No Gas	6272220.07	98.9
Lu	175	3	He	2211864.76	99.9
Bi	209	1	No Gas	4015166.80	91.8
Bi	209	3	He	1868323.57	93.1

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 027BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:07:58
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	1.113	ug/l	18189.48
Be	9	45	1	No Gas	-0.096	ug/l	191.63
B	11	45	1	No Gas	0.722	ug/l	2407.83
Na	23	45	3	He	47.985	ug/l	66271.66
Mg	24	45	3	He	-0.436	ug/l	2924.50
Al	27	45	1	No Gas	-0.846	ug/l	34910.66
Si	28	45	2	H2	-2.945	ug/l	4617.91
K	39	72	3	He	-21.207	ug/l	111342.94
Ca	40	72	2	H2	3.150	ug/l	127055.76
Ti	47	72	1	No Gas	0.390	ug/l	682.37
V	51	72	1	No Gas	7.544	ug/l	-8829.69
V	51	72	3	He	-17.559	ug/l	6856.08
Cr	52	72	1	No Gas	-6.641	ug/l	35022.32
Cr	52	72	3	He	-0.105	ug/l	688.91
Mn	55	72	1	No Gas	-0.184	ug/l	12533.80
Mn	55	72	3	He	-0.026	ug/l	118.98
Fe	56	72	2	H2	2.842	ug/l	37627.44
Fe	56	72	3	He	1.916	ug/l	10893.33
Co	59	72	1	No Gas	-0.011	ug/l	399.22
Ni	60	72	1	No Gas	0.004	ug/l	678.67
Ni	60	72	3	He	-0.059	ug/l	63.33
Cu	63	72	1	No Gas	0.538	ug/l	5639.36
Cu	63	72	3	He	-0.003	ug/l	410.59
Cu	65	72	1	No Gas	0.043	ug/l	740.32
Zn	66	72	1	No Gas	0.018	ug/l	471.60
Zn	66	72	3	He	-0.026	ug/l	104.44
As	75	72	1	No Gas	-5.039	ug/l	8906.42
As	75	72	3	He	-0.497	ug/l	291.07
Se	78	72	2	H2	-0.009	ug/l	35.67
Br	79	72	1	No Gas	0.312	ug/l	7007.80
Br	79	72	2	H2	0.345	ug/l	3852.89
Se	82	72	1	No Gas	0.168	ug/l	671.55
Kr	84	72	1	No Gas		ug/l	18784.97
Sr	88	72	1	No Gas	0.001	ug/l	279.45
Sr	88	72	3	He	0.008	ug/l	71.11
Mo	95	115	1	No Gas	0.314	ug/l	1448.98
Mo	95	115	3	He	0.241	ug/l	371.12
Mo	98	115	1	No Gas	0.317	ug/l	2359.11
Ag	107	115	1	No Gas	-0.005	ug/l	805.01
Ag	109	115	1	No Gas	-0.006	ug/l	787.68
Cd	111	115	1	No Gas	0.009	ug/l	15.04

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	8.44
Cd	114	115	1	No Gas	0.007	ug/l	-30.29
Cd	114	115	3	He	0.003	ug/l	17.75
Sn	118	115	1	No Gas	-0.116	ug/l	1700.07
Sn	118	115	3	He	-0.045	ug/l	474.46
Sb	121	115	1	No Gas	0.057	ug/l	858.45
Sb	121	115	3	He	0.057	ug/l	216.69
Sb	123	115	1	No Gas	0.056	ug/l	647.42
Sb	123	115	3	He	0.059	ug/l	174.69
Ba	135	115	1	No Gas	0.000	ug/l	13.31
Ba	137	115	1	No Gas	0.000	ug/l	29.94
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.000	ug/l	5.55
Hg	201	209	1	No Gas	0.000	ug/l	11.33
Hg	202	209	1	No Gas	0.005	ug/l	37.66
Hg	202	209	3	He	0.003	ug/l	12.67
Tl	203	209	3	He	-0.007	ug/l	292.12
Tl	205	209	1	No Gas	0.000	ug/l	1483.43
Tl	205	209	3	He	0.000	ug/l	731.65
[Pb]	206	209	1	No Gas	-0.075	ug/l	2955.91
[Pb]	207	209	1	No Gas	-0.062	ug/l	2431.36
Pb	208	209	1	No Gas	-0.069	ug/l	11245.26
Th	232	209	3	He	0.017	ug/l	389.50
U	238	209	1	No Gas	0.001	ug/l	61.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2465337.41	96.3
Sc	45	2	H2	1332335.48	98.3
Sc	45	3	He	154248.26	96.7
Ge	72	1	No Gas	642202.60	95.9
Ge	72	2	H2	444927.89	97.7
Ge	72	3	He	99903.73	98.1
In	115	1	No Gas	4558640.89	99.9
In	115	3	He	1027748.77	96.8
Tb	159	1	No Gas	6329546.46	99.8
Tb	159	3	He	2661129.47	100.4
Ho	165	1	No Gas	6278821.36	100.4
Ho	165	3	He	2621075.07	99.3
Lu	175	1	No Gas	6366443.30	100.4
Lu	175	3	He	2238324.03	101.1
Bi	209	1	No Gas	4376941.27	100.1
Bi	209	3	He	1978903.22	98.6

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 028BLKV.d
Data Path Name D:\Agilent\ICPMH1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:14:11
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	1.088	ug/l	18726.34
Be	9	45	1	No Gas	-0.085	ug/l	227.96
B	11	45	1	No Gas	0.580	ug/l	2280.43
Na	23	45	3	He	42.474	ug/l	62916.21
Mg	24	45	3	He	-0.553	ug/l	2857.95
Al	27	45	1	No Gas	-0.999	ug/l	34428.43
Si	28	45	2	H2	-2.926	ug/l	4545.86
K	39	72	3	He	-7.668	ug/l	112394.18
Ca	40	72	2	H2	3.761	ug/l	126017.48
Ti	47	72	1	No Gas	0.210	ug/l	488.83
V	51	72	1	No Gas	7.232	ug/l	-13335.66
V	51	72	3	He	-16.842	ug/l	8251.24
Cr	52	72	1	No Gas	-6.376	ug/l	38147.15
Cr	52	72	3	He	-0.103	ug/l	678.91
Mn	55	72	1	No Gas	-0.183	ug/l	12573.84
Mn	55	72	3	He	-0.018	ug/l	128.64
Fe	56	72	2	H2	1.497	ug/l	25831.95
Fe	56	72	3	He	0.696	ug/l	8093.74
Co	59	72	1	No Gas	-0.009	ug/l	419.17
Ni	60	72	1	No Gas	-0.009	ug/l	645.40
Ni	60	72	3	He	-0.049	ug/l	71.11
Cu	63	72	1	No Gas	0.319	ug/l	4102.90
Cu	63	72	3	He	0.001	ug/l	411.26
Cu	65	72	1	No Gas	0.003	ug/l	612.26
Zn	66	72	1	No Gas	-0.023	ug/l	378.49
Zn	66	72	3	He	-0.022	ug/l	104.45
As	75	72	1	No Gas	-4.351	ug/l	10944.33
As	75	72	3	He	-0.415	ug/l	328.40
Se	78	72	2	H2	-0.022	ug/l	30.56
Br	79	72	1	No Gas	0.271	ug/l	6751.53
Br	79	72	2	H2	0.302	ug/l	3576.67
Se	82	72	1	No Gas	0.036	ug/l	651.02
Kr	84	72	1	No Gas		ug/l	18488.55
Sr	88	72	1	No Gas	0.001	ug/l	262.82
Sr	88	72	3	He	0.004	ug/l	61.11
Mo	95	115	1	No Gas	0.070	ug/l	337.78
Mo	95	115	3	He	0.068	ug/l	107.78
Mo	98	115	1	No Gas	0.069	ug/l	521.12
Ag	107	115	1	No Gas	-0.002	ug/l	816.35
Ag	109	115	1	No Gas	-0.003	ug/l	807.68
Cd	111	115	1	No Gas	0.018	ug/l	37.41

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.009	ug/l	11.89
Cd	114	115	1	No Gas	0.010	ug/l	-14.50
Cd	114	115	3	He	0.023	ug/l	56.17
Sn	118	115	1	No Gas	-0.081	ug/l	1926.31
Sn	118	115	3	He	-0.039	ug/l	475.57
Sb	121	115	1	No Gas	0.040	ug/l	626.74
Sb	121	115	3	He	0.041	ug/l	162.02
Sb	123	115	1	No Gas	0.042	ug/l	495.73
Sb	123	115	3	He	0.038	ug/l	120.34
Ba	135	115	1	No Gas	0.014	ug/l	46.57
Ba	137	115	1	No Gas	0.003	ug/l	39.92
La	139	115	3	He	-0.001	ug/l	4.44
Ce	140	115	3	He	0.000	ug/l	6.67
Hg	201	209	1	No Gas	-0.001	ug/l	9.67
Hg	202	209	1	No Gas	0.003	ug/l	31.99
Hg	202	209	3	He	0.003	ug/l	14.33
Tl	203	209	3	He	-0.001	ug/l	318.80
Tl	205	209	1	No Gas	0.006	ug/l	1623.44
Tl	205	209	3	He	0.007	ug/l	812.35
[Pb]	206	209	1	No Gas	-0.075	ug/l	2970.35
[Pb]	207	209	1	No Gas	-0.065	ug/l	2423.57
Pb	208	209	1	No Gas	-0.059	ug/l	11637.65
Th	232	209	3	He	0.010	ug/l	285.45
U	238	209	1	No Gas	0.001	ug/l	54.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2557081.24	99.9
Sc	45	2	H2	1304788.94	96.2
Sc	45	3	He	152328.06	95.5
Ge	72	1	No Gas	641680.78	95.8
Ge	72	2	H2	432136.47	94.9
Ge	72	3	He	97780.45	96.0
In	115	1	No Gas	4463792.27	97.8
In	115	3	He	1008068.05	94.9
Tb	159	1	No Gas	6398627.88	100.9
Tb	159	3	He	2614886.59	98.6
Ho	165	1	No Gas	6261974.36	100.1
Ho	165	3	He	2595612.53	98.3
Lu	175	1	No Gas	6254657.72	98.6
Lu	175	3	He	2214280.27	100.0
Bi	209	1	No Gas	4399452.25	100.6
Bi	209	3	He	1982749.96	98.8

ICPMS207-B Analytical Data

Sample Name CCV
File Name 029_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:20:24
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	501.611	ug/l	2874361.61
Be	9	45	1	No Gas	43.928	ug/l	117505.51
B	11	45	1	No Gas	46.170	ug/l	69627.42
Na	23	45	3	He	12329.835	ug/l	5804241.72
Mg	24	45	3	He	12288.744	ug/l	3242533.98
Al	27	45	1	No Gas	46.384	ug/l	565680.19
Si	28	45	2	H2	204.493	ug/l	259777.79
K	39	72	3	He	12049.143	ug/l	3274715.58
Ca	40	72	2	H2	12008.147	ug/l	54346076.66
Ti	47	72	1	No Gas	51.388	ug/l	55903.26
V	51	72	1	No Gas	59.032	ug/l	684353.58
V	51	72	3	He	37.996	ug/l	129834.78
Cr	52	72	1	No Gas	48.567	ug/l	688149.13
Cr	52	72	3	He	54.320	ug/l	133747.45
Mn	55	72	1	No Gas	54.939	ug/l	881706.77
Mn	55	72	3	He	55.359	ug/l	89091.79
Fe	56	72	2	H2	1253.492	ug/l	10601774.31
Fe	56	72	3	He	1300.559	ug/l	2821754.15
Co	59	72	1	No Gas	53.487	ug/l	705906.52
Ni	60	72	1	No Gas	54.877	ug/l	155364.76
Ni	60	72	3	He	54.639	ug/l	50858.19
Cu	63	72	1	No Gas	54.246	ug/l	385169.46
Cu	63	72	3	He	57.331	ug/l	137582.07
Cu	65	72	1	No Gas	56.209	ug/l	183257.73
Zn	66	72	1	No Gas	58.554	ug/l	133962.70
Zn	66	72	3	He	56.104	ug/l	30822.68
As	75	72	1	No Gas	54.674	ug/l	187377.05
As	75	72	3	He	54.418	ug/l	30452.35
Se	78	72	2	H2	53.794	ug/l	17535.77
Br	79	72	1	No Gas	0.130	ug/l	5856.26
Br	79	72	2	H2	0.226	ug/l	3486.85
Se	82	72	1	No Gas	54.798	ug/l	10154.44
Kr	84	72	1	No Gas		ug/l	26188.68
Sr	88	72	1	No Gas	56.175	ug/l	1143364.43
Sr	88	72	3	He	56.323	ug/l	140526.04
Mo	95	115	1	No Gas	48.344	ug/l	207969.68
Mo	95	115	3	He	51.837	ug/l	78424.96
Mo	98	115	1	No Gas	48.590	ug/l	340288.97
Ag	107	115	1	No Gas	19.826	ug/l	227036.88
Ag	109	115	1	No Gas	19.911	ug/l	218342.03
Cd	111	115	1	No Gas	54.003	ug/l	129430.05

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.872	ug/l	44358.77
Cd	114	115	1	No Gas	51.890	ug/l	291024.22
Cd	114	115	3	He	56.490	ug/l	108596.77
Sn	118	115	1	No Gas	48.929	ug/l	365661.28
Sn	118	115	3	He	52.737	ug/l	103380.14
Sb	121	115	1	No Gas	51.456	ug/l	621672.92
Sb	121	115	3	He	52.728	ug/l	169620.18
Sb	123	115	1	No Gas	51.265	ug/l	476658.19
Sb	123	115	3	He	53.221	ug/l	135002.66
Ba	135	115	1	No Gas	53.455	ug/l	122160.58
Ba	137	115	1	No Gas	53.800	ug/l	211424.44
La	139	115	3	He	49.883	ug/l	554936.17
Ce	140	115	3	He	50.334	ug/l	611026.46
Hg	201	209	1	No Gas	0.925	ug/l	1622.44
Hg	202	209	1	No Gas	0.943	ug/l	3708.11
Hg	202	209	3	He	0.985	ug/l	1820.10
Tl	203	209	3	He	53.880	ug/l	234074.67
Tl	205	209	1	No Gas	49.049	ug/l	1101446.41
Tl	205	209	3	He	52.210	ug/l	564245.33
[Pb]	206	209	1	No Gas	50.601	ug/l	405612.20
[Pb]	207	209	1	No Gas	50.675	ug/l	351706.14
Pb	208	209	1	No Gas	50.929	ug/l	1621484.61
Th	232	209	3	He	52.003	ug/l	796391.28
U	238	209	1	No Gas	51.548	ug/l	1622852.91

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2470237.37	96.5
Sc	45	2	H2	1319285.37	97.3
Sc	45	3	He	155016.17	97.2
Ge	72	1	No Gas	642659.68	95.9
Ge	72	2	H2	458065.05	100.6
Ge	72	3	He	100562.53	98.7
In	115	1	No Gas	4338398.12	95.1
In	115	3	He	1028735.02	96.9
Tb	159	1	No Gas	6284385.47	99.1
Tb	159	3	He	2587861.65	97.6
Ho	165	1	No Gas	6162759.73	98.5
Ho	165	3	He	2567378.54	97.2
Lu	175	1	No Gas	6267246.35	98.8
Lu	175	3	He	2161827.04	97.6
Bi	209	1	No Gas	4213796.03	96.4
Bi	209	3	He	1931803.92	96.3

ICPMS207-B Analytical Data

Sample Name CCB
File Name 030_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:26:39
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	1.334	ug/l	19470.25
Be	9	45	1	No Gas	-0.083	ug/l	224.96
B	11	45	1	No Gas	0.987	ug/l	2801.39
Na	23	45	3	He	29.663	ug/l	57082.08
Mg	24	45	3	He	-2.009	ug/l	2481.96
Al	27	45	1	No Gas	-2.104	ug/l	20834.50
Si	28	45	2	H2	-2.916	ug/l	4579.88
K	39	72	3	He	-3.801	ug/l	111586.01
Ca	40	72	2	H2	1.458	ug/l	118033.13
Ti	47	72	1	No Gas	0.071	ug/l	335.34
V	51	72	1	No Gas	4.659	ug/l	-47100.93
V	51	72	3	He	-14.035	ug/l	14062.34
Cr	52	72	1	No Gas	-5.560	ug/l	47355.39
Cr	52	72	3	He	-0.089	ug/l	701.13
Mn	55	72	1	No Gas	-0.157	ug/l	12856.80
Mn	55	72	3	He	-0.014	ug/l	132.64
Fe	56	72	2	H2	0.599	ug/l	18972.98
Fe	56	72	3	He	0.259	ug/l	7058.82
Co	59	72	1	No Gas	-0.004	ug/l	489.04
Ni	60	72	1	No Gas	-0.015	ug/l	622.11
Ni	60	72	3	He	-0.049	ug/l	70.00
Cu	63	72	1	No Gas	0.188	ug/l	3152.28
Cu	63	72	3	He	-0.019	ug/l	359.27
Cu	65	72	1	No Gas	-0.010	ug/l	563.57
Zn	66	72	1	No Gas	-0.022	ug/l	378.00
Zn	66	72	3	He	-0.017	ug/l	105.56
As	75	72	1	No Gas	-5.117	ug/l	8608.73
As	75	72	3	He	-0.389	ug/l	336.67
Se	78	72	2	H2	-0.013	ug/l	33.89
Br	79	72	1	No Gas	0.084	ug/l	5503.48
Br	79	72	2	H2	0.094	ug/l	2831.35
Se	82	72	1	No Gas	-0.228	ug/l	599.14
Kr	84	72	1	No Gas		ug/l	17969.17
Sr	88	72	1	No Gas	0.003	ug/l	312.72
Sr	88	72	3	He	0.002	ug/l	54.44
Mo	95	115	1	No Gas	0.054	ug/l	266.67
Mo	95	115	3	He	0.040	ug/l	66.67
Mo	98	115	1	No Gas	0.052	ug/l	399.52
Ag	107	115	1	No Gas	-0.002	ug/l	810.35
Ag	109	115	1	No Gas	-0.003	ug/l	799.01
Cd	111	115	1	No Gas	0.012	ug/l	22.19

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.002	ug/l	6.78
Cd	114	115	1	No Gas	0.005	ug/l	-42.56
Cd	114	115	3	He	0.002	ug/l	15.75
Sn	118	115	1	No Gas	-0.063	ug/l	2039.45
Sn	118	115	3	He	-0.020	ug/l	515.57
Sb	121	115	1	No Gas	0.060	ug/l	855.78
Sb	121	115	3	He	0.047	ug/l	180.35
Sb	123	115	1	No Gas	0.062	ug/l	684.42
Sb	123	115	3	He	0.049	ug/l	147.35
Ba	135	115	1	No Gas	-0.001	ug/l	9.98
Ba	137	115	1	No Gas	0.004	ug/l	43.25
La	139	115	3	He	-0.001	ug/l	5.55
Ce	140	115	3	He	0.000	ug/l	12.22
Hg	201	209	1	No Gas	0.004	ug/l	19.67
Hg	202	209	1	No Gas	0.008	ug/l	50.99
Hg	202	209	3	He	0.006	ug/l	19.33
Tl	203	209	3	He	0.094	ug/l	737.65
Tl	205	209	1	No Gas	0.094	ug/l	3637.19
Tl	205	209	3	He	0.092	ug/l	1742.82
[Pb]	206	209	1	No Gas	-0.066	ug/l	3009.25
[Pb]	207	209	1	No Gas	-0.055	ug/l	2466.91
Pb	208	209	1	No Gas	-0.056	ug/l	11605.39
Th	232	209	3	He	0.062	ug/l	1089.82
U	238	209	1	No Gas	0.004	ug/l	164.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2468062.61	96.5
Sc	45	2	H2	1311222.46	96.7
Sc	45	3	He	152453.63	95.6
Ge	72	1	No Gas	635975.73	94.9
Ge	72	2	H2	439040.32	96.4
Ge	72	3	He	96201.68	94.4
In	115	1	No Gas	4398503.17	96.4
In	115	3	He	1013738.78	95.5
Tb	159	1	No Gas	6280663.04	99.0
Tb	159	3	He	2576701.04	97.2
Ho	165	1	No Gas	6166500.92	98.6
Ho	165	3	He	2574358.67	97.5
Lu	175	1	No Gas	6355183.29	100.2
Lu	175	3	He	2185238.97	98.7
Bi	209	1	No Gas	4350027.84	99.5
Bi	209	3	He	1972638.61	98.3

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 031BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:32:52
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	0.722	ug/l	15775.18
Be	9	45	1	No Gas	-0.083	ug/l	223.63
B	11	45	1	No Gas	0.601	ug/l	2202.38
Na	23	45	3	He	24.612	ug/l	53311.73
Mg	24	45	3	He	1.347	ug/l	3263.88
Al	27	45	1	No Gas	-0.526	ug/l	38038.17
Si	28	45	2	H2	-2.830	ug/l	4617.24
K	39	72	3	He	-1.786	ug/l	110046.77
Ca	40	72	2	H2	3.141	ug/l	122556.66
Ti	47	72	1	No Gas	0.079	ug/l	340.35
V	51	72	1	No Gas	6.684	ug/l	-20041.39
V	51	72	3	He	-14.053	ug/l	13768.71
Cr	52	72	1	No Gas	-5.447	ug/l	48246.91
Cr	52	72	3	He	-0.067	ug/l	738.91
Mn	55	72	1	No Gas	-0.127	ug/l	13199.81
Mn	55	72	3	He	-0.021	ug/l	119.98
Fe	56	72	2	H2	0.298	ug/l	16171.85
Fe	56	72	3	He	0.027	ug/l	6457.93
Co	59	72	1	No Gas	-0.011	ug/l	395.89
Ni	60	72	1	No Gas	-0.061	ug/l	489.04
Ni	60	72	3	He	-0.052	ug/l	65.56
Cu	63	72	1	No Gas	0.190	ug/l	3138.27
Cu	63	72	3	He	-0.022	ug/l	345.60
Cu	65	72	1	No Gas	-0.030	ug/l	494.21
Zn	66	72	1	No Gas	-0.030	ug/l	354.77
Zn	66	72	3	He	-0.054	ug/l	84.45
As	75	72	1	No Gas	-3.851	ug/l	12163.53
As	75	72	3	He	-0.373	ug/l	338.93
Se	78	72	2	H2	-0.023	ug/l	30.11
Br	79	72	1	No Gas	0.216	ug/l	6282.27
Br	79	72	2	H2	0.228	ug/l	3273.90
Se	82	72	1	No Gas	-0.532	ug/l	543.41
Kr	84	72	1	No Gas		ug/l	17772.47
Sr	88	72	1	No Gas	0.002	ug/l	289.43
Sr	88	72	3	He	0.002	ug/l	52.22
Mo	95	115	1	No Gas	0.015	ug/l	93.33
Mo	95	115	3	He	0.019	ug/l	34.44
Mo	98	115	1	No Gas	0.018	ug/l	153.47
Ag	107	115	1	No Gas	-0.002	ug/l	801.01
Ag	109	115	1	No Gas	0.000	ug/l	820.35
Cd	111	115	1	No Gas	-0.004	ug/l	-16.00

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.002	ug/l	6.22
Cd	114	115	1	No Gas	0.000	ug/l	-67.40
Cd	114	115	3	He	-0.001	ug/l	10.43
Sn	118	115	1	No Gas	-0.084	ug/l	1849.80
Sn	118	115	3	He	-0.016	ug/l	506.68
Sb	121	115	1	No Gas	0.026	ug/l	434.72
Sb	121	115	3	He	0.023	ug/l	101.68
Sb	123	115	1	No Gas	0.026	ug/l	334.04
Sb	123	115	3	He	0.023	ug/l	79.34
Ba	135	115	1	No Gas	0.008	ug/l	29.94
Ba	137	115	1	No Gas	0.005	ug/l	46.57
La	139	115	3	He	-0.001	ug/l	5.56
Ce	140	115	3	He	0.001	ug/l	15.55
Hg	201	209	1	No Gas	0.003	ug/l	16.33
Hg	202	209	1	No Gas	0.006	ug/l	42.66
Hg	202	209	3	He	0.007	ug/l	20.67
Tl	203	209	3	He	0.018	ug/l	400.17
Tl	205	209	1	No Gas	0.015	ug/l	1803.47
Tl	205	209	3	He	0.013	ug/l	870.38
[Pb]	206	209	1	No Gas	-0.064	ug/l	3000.36
[Pb]	207	209	1	No Gas	-0.052	ug/l	2458.02
Pb	208	209	1	No Gas	-0.058	ug/l	11433.09
Th	232	209	3	He	0.021	ug/l	448.86
U	238	209	1	No Gas	0.001	ug/l	71.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2435656.67	95.2
Sc	45	2	H2	1292429.11	95.3
Sc	45	3	He	148408.10	93.0
Ge	72	1	No Gas	630372.29	94.1
Ge	72	2	H2	429362.24	94.3
Ge	72	3	He	94440.37	92.7
In	115	1	No Gas	4347055.20	95.3
In	115	3	He	980654.43	92.4
Tb	159	1	No Gas	6261504.67	98.7
Tb	159	3	He	2583732.26	97.5
Ho	165	1	No Gas	6138648.07	98.2
Ho	165	3	He	2543723.16	96.3
Lu	175	1	No Gas	6265247.74	98.8
Lu	175	3	He	2121962.30	95.8
Bi	209	1	No Gas	4310404.18	98.6
Bi	209	3	He	1960414.82	97.7

ICPMS207-B Analytical Data

Sample Name MB-163179
File Name 032ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:39:06
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	1.201	ug/l	15911.36
Be	9	45	1	No Gas	-0.069	ug/l	224.62
B	11	45	1	No Gas	1.579	ug/l	3126.25
Na	23	45	3	He	44.909	ug/l	56330.43
Mg	24	45	3	He	-1.289	ug/l	2345.54
Al	27	45	1	No Gas	0.679	ug/l	44272.93
Si	28	45	2	H2	19.125	ug/l	27501.57
K	39	72	3	He	21.552	ug/l	108581.76
Ca	40	72	2	H2	11.247	ug/l	145791.70
Ti	47	72	1	No Gas	0.561	ug/l	767.46
V	51	72	1	No Gas	14.319	ug/l	72592.66
V	51	72	3	He	-8.424	ug/l	23876.04
Cr	52	72	1	No Gas	-1.302	ug/l	86696.17
Cr	52	72	3	He	0.127	ug/l	1110.05
Mn	55	72	1	No Gas	1.604	ug/l	35969.21
Mn	55	72	3	He	0.164	ug/l	374.26
Fe	56	72	2	H2	1.164	ug/l	21405.42
Fe	56	72	3	He	0.936	ug/l	7789.92
Co	59	72	1	No Gas	0.095	ug/l	1586.94
Ni	60	72	1	No Gas	-0.004	ug/l	582.19
Ni	60	72	3	He	-0.036	ug/l	74.44
Cu	63	72	1	No Gas	0.591	ug/l	5322.45
Cu	63	72	3	He	0.247	ug/l	891.85
Cu	65	72	1	No Gas	0.209	ug/l	1129.83
Zn	66	72	1	No Gas	0.182	ug/l	746.48
Zn	66	72	3	He	0.123	ug/l	164.45
As	75	72	1	No Gas	-2.856	ug/l	13604.54
As	75	72	3	He	0.182	ug/l	586.53
Se	78	72	2	H2	0.051	ug/l	49.11
Br	79	72	1	No Gas	0.664	ug/l	8192.76
Br	79	72	2	H2	0.581	ug/l	4282.17
Se	82	72	1	No Gas	0.050	ug/l	577.28
Kr	84	72	1	No Gas		ug/l	17199.60
Sr	88	72	1	No Gas	0.018	ug/l	545.60
Sr	88	72	3	He	0.023	ug/l	96.67
Mo	95	115	1	No Gas	0.066	ug/l	284.45
Mo	95	115	3	He	0.058	ug/l	83.33
Mo	98	115	1	No Gas	0.056	ug/l	377.92
Ag	107	115	1	No Gas	-0.062	ug/l	102.04
Ag	109	115	1	No Gas	-0.066	ug/l	88.70
Cd	111	115	1	No Gas	0.015	ug/l	27.16

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	6.33
Cd	114	115	1	No Gas	0.016	ug/l	21.30
Cd	114	115	3	He	-0.002	ug/l	7.06
Sn	118	115	1	No Gas	0.578	ug/l	6145.89
Sn	118	115	3	He	0.866	ug/l	1981.26
Sb	121	115	1	No Gas	0.029	ug/l	435.72
Sb	121	115	3	He	0.033	ug/l	123.68
Sb	123	115	1	No Gas	0.033	ug/l	360.04
Sb	123	115	3	He	0.033	ug/l	97.68
Ba	135	115	1	No Gas	0.038	ug/l	89.82
Ba	137	115	1	No Gas	0.041	ug/l	172.99
La	139	115	3	He	0.000	ug/l	13.33
Ce	140	115	3	He	0.002	ug/l	25.56
Hg	201	209	1	No Gas	0.007	ug/l	21.33
Hg	202	209	1	No Gas	0.014	ug/l	66.99
Hg	202	209	3	He	0.014	ug/l	32.66
Tl	203	209	3	He	0.209	ug/l	1167.19
Tl	205	209	1	No Gas	0.196	ug/l	5371.12
Tl	205	209	3	He	0.228	ug/l	3036.24
[Pb]	206	209	1	No Gas	0.198	ug/l	4627.50
[Pb]	207	209	1	No Gas	0.245	ug/l	4107.32
Pb	208	209	1	No Gas	0.222	ug/l	18468.42
Th	232	209	3	He	0.148	ug/l	2281.79
U	238	209	1	No Gas	0.003	ug/l	107.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2098729.68	82.0
Sc	45	2	H2	1144014.92	84.4
Sc	45	3	He	134011.63	84.0
Ge	72	1	No Gas	567265.48	84.7
Ge	72	2	H2	399000.06	87.6
Ge	72	3	He	88572.78	86.9
In	115	1	No Gas	3939380.64	86.3
In	115	3	He	905347.38	85.3
Tb	159	1	No Gas	5586010.92	88.1
Tb	159	3	He	2361051.65	89.1
Ho	165	1	No Gas	5468672.28	87.4
Ho	165	3	He	2409931.64	91.3
Lu	175	1	No Gas	5669623.12	89.4
Lu	175	3	He	2019740.79	91.2
Bi	209	1	No Gas	3885835.04	88.9
Bi	209	3	He	1848294.04	92.1

ICPMS207-B Analytical Data

Sample Name MB-163290
File Name 033ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:45:20
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	0.970	ug/l	14940.65
Be	9	45	1	No Gas	-0.067	ug/l	230.95
B	11	45	1	No Gas	1.377	ug/l	2899.45
Na	23	45	3	He	51.722	ug/l	59335.19
Mg	24	45	3	He	0.397	ug/l	2744.82
Al	27	45	1	No Gas	3.038	ug/l	67424.38
Si	28	45	2	H2	18.015	ug/l	26757.22
K	39	72	3	He	24.258	ug/l	106227.13
Ca	40	72	2	H2	37.121	ug/l	250435.91
Ti	47	72	1	No Gas	0.461	ug/l	680.70
V	51	72	1	No Gas	16.688	ug/l	102335.68
V	51	72	3	He	-9.144	ug/l	21866.27
Cr	52	72	1	No Gas	-1.697	ug/l	83671.41
Cr	52	72	3	He	0.117	ug/l	1060.04
Mn	55	72	1	No Gas	1.511	ug/l	35155.68
Mn	55	72	3	He	0.205	ug/l	420.92
Fe	56	72	2	H2	1.935	ug/l	27386.31
Fe	56	72	3	He	1.864	ug/l	9298.98
Co	59	72	1	No Gas	0.140	ug/l	2145.91
Ni	60	72	1	No Gas	0.007	ug/l	618.79
Ni	60	72	3	He	-0.021	ug/l	84.45
Cu	63	72	1	No Gas	0.653	ug/l	5791.47
Cu	63	72	3	He	0.401	ug/l	1183.81
Cu	65	72	1	No Gas	0.310	ug/l	1441.32
Zn	66	72	1	No Gas	0.552	ug/l	1511.81
Zn	66	72	3	He	0.533	ug/l	352.23
As	75	72	1	No Gas	-2.778	ug/l	13976.60
As	75	72	3	He	0.188	ug/l	573.27
Se	78	72	2	H2	0.036	ug/l	45.33
Br	79	72	1	No Gas	0.720	ug/l	8618.82
Br	79	72	2	H2	0.583	ug/l	4338.72
Se	82	72	1	No Gas	-0.385	ug/l	516.34
Kr	84	72	1	No Gas		ug/l	17672.64
Sr	88	72	1	No Gas	0.080	ug/l	1690.08
Sr	88	72	3	He	0.091	ug/l	237.78
Mo	95	115	1	No Gas	0.198	ug/l	772.25
Mo	95	115	3	He	0.221	ug/l	293.34
Mo	98	115	1	No Gas	0.194	ug/l	1220.06
Ag	107	115	1	No Gas	-0.062	ug/l	104.71
Ag	109	115	1	No Gas	-0.064	ug/l	101.38
Cd	111	115	1	No Gas	0.011	ug/l	15.89

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.005	ug/l	7.89
Cd	114	115	1	No Gas	0.014	ug/l	6.23
Cd	114	115	3	He	-0.003	ug/l	5.36
Sn	118	115	1	No Gas	0.813	ug/l	7477.18
Sn	118	115	3	He	1.096	ug/l	2315.76
Sb	121	115	1	No Gas	0.025	ug/l	374.04
Sb	121	115	3	He	0.025	ug/l	98.01
Sb	123	115	1	No Gas	0.026	ug/l	291.03
Sb	123	115	3	He	0.024	ug/l	75.68
Ba	135	115	1	No Gas	0.264	ug/l	538.95
Ba	137	115	1	No Gas	0.193	ug/l	691.98
La	139	115	3	He	0.002	ug/l	28.89
Ce	140	115	3	He	0.003	ug/l	34.44
Hg	201	209	1	No Gas	0.008	ug/l	24.00
Hg	202	209	1	No Gas	0.014	ug/l	66.66
Hg	202	209	3	He	0.010	ug/l	25.33
Tl	203	209	3	He	0.167	ug/l	975.09
Tl	205	209	1	No Gas	0.172	ug/l	4957.63
Tl	205	209	3	He	0.159	ug/l	2282.45
[Pb]	206	209	1	No Gas	0.199	ug/l	4718.65
[Pb]	207	209	1	No Gas	0.196	ug/l	3867.25
Pb	208	209	1	No Gas	0.204	ug/l	18280.58
Th	232	209	3	He	0.086	ug/l	1347.95
U	238	209	1	No Gas	0.001	ug/l	69.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2123397.30	83.0
Sc	45	2	H2	1162803.71	85.8
Sc	45	3	He	134587.28	84.4
Ge	72	1	No Gas	574878.67	85.8
Ge	72	2	H2	403685.34	88.6
Ge	72	3	He	86154.41	84.6
In	115	1	No Gas	3816186.76	83.6
In	115	3	He	882614.64	83.1
Tb	159	1	No Gas	5679651.74	89.5
Tb	159	3	He	2405882.33	90.8
Ho	165	1	No Gas	5590467.40	89.4
Ho	165	3	He	2412898.73	91.4
Lu	175	1	No Gas	5646723.14	89.0
Lu	175	3	He	2015259.85	91.0
Bi	209	1	No Gas	3961559.66	90.6
Bi	209	3	He	1815494.62	90.5

ICPMS207-B Analytical Data

Sample Name MB-163315
File Name 034ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:51:34
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	0.577	ug/l	13416.62
Be	9	45	1	No Gas	-0.064	ug/l	244.29
B	11	45	1	No Gas	0.935	ug/l	2416.50
Na	23	45	3	He	39.744	ug/l	54978.73
Mg	24	45	3	He	-0.783	ug/l	2498.60
Al	27	45	1	No Gas	-0.004	ug/l	39416.12
Si	28	45	2	H2	18.878	ug/l	24032.89
K	39	72	3	He	8.429	ug/l	103365.10
Ca	40	72	2	H2	13.269	ug/l	142897.00
Ti	47	72	1	No Gas	0.348	ug/l	593.94
V	51	72	1	No Gas	12.981	ug/l	64955.48
V	51	72	3	He	-9.169	ug/l	21965.32
Cr	52	72	1	No Gas	-2.398	ug/l	78851.44
Cr	52	72	3	He	0.108	ug/l	1045.60
Mn	55	72	1	No Gas	1.319	ug/l	33554.84
Mn	55	72	3	He	0.126	ug/l	313.61
Fe	56	72	2	H2	1.247	ug/l	20448.08
Fe	56	72	3	He	0.873	ug/l	7512.83
Co	59	72	1	No Gas	0.147	ug/l	2308.95
Ni	60	72	1	No Gas	-0.030	ug/l	542.27
Ni	60	72	3	He	-0.033	ug/l	75.55
Cu	63	72	1	No Gas	0.492	ug/l	4953.50
Cu	63	72	3	He	0.338	ug/l	1061.50
Cu	65	72	1	No Gas	0.226	ug/l	1238.55
Zn	66	72	1	No Gas	0.129	ug/l	673.40
Zn	66	72	3	He	0.186	ug/l	191.11
As	75	72	1	No Gas	-4.714	ug/l	9043.81
As	75	72	3	He	0.167	ug/l	567.33
Se	78	72	2	H2	0.044	ug/l	43.67
Br	79	72	1	No Gas	0.588	ug/l	8146.20
Br	79	72	2	H2	0.549	ug/l	3862.88
Se	82	72	1	No Gas	0.076	ug/l	611.54
Kr	84	72	1	No Gas		ug/l	16966.41
Sr	88	72	1	No Gas	0.011	ug/l	439.14
Sr	88	72	3	He	0.025	ug/l	97.78
Mo	95	115	1	No Gas	0.096	ug/l	407.79
Mo	95	115	3	He	0.137	ug/l	187.78
Mo	98	115	1	No Gas	0.101	ug/l	677.80
Ag	107	115	1	No Gas	-0.063	ug/l	90.70
Ag	109	115	1	No Gas	-0.066	ug/l	84.70
Cd	111	115	1	No Gas	0.006	ug/l	5.23

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.002	ug/l	5.67
Cd	114	115	1	No Gas	0.013	ug/l	2.69
Cd	114	115	3	He	-0.004	ug/l	4.36
Sn	118	115	1	No Gas	0.677	ug/l	6957.98
Sn	118	115	3	He	1.030	ug/l	2250.20
Sb	121	115	1	No Gas	0.023	ug/l	367.38
Sb	121	115	3	He	0.026	ug/l	101.34
Sb	123	115	1	No Gas	0.020	ug/l	260.70
Sb	123	115	3	He	0.023	ug/l	74.68
Ba	135	115	1	No Gas	0.022	ug/l	59.88
Ba	137	115	1	No Gas	0.015	ug/l	76.51
La	139	115	3	He	-0.001	ug/l	6.67
Ce	140	115	3	He	0.001	ug/l	17.78
Hg	201	209	1	No Gas	0.006	ug/l	22.00
Hg	202	209	1	No Gas	0.010	ug/l	55.99
Hg	202	209	3	He	0.013	ug/l	30.33
Tl	203	209	3	He	0.106	ug/l	726.31
Tl	205	209	1	No Gas	0.093	ug/l	3448.25
Tl	205	209	3	He	0.111	ug/l	1794.85
[Pb]	206	209	1	No Gas	0.105	ug/l	4208.47
[Pb]	207	209	1	No Gas	0.101	ug/l	3396.01
Pb	208	209	1	No Gas	0.115	ug/l	16340.72
Th	232	209	3	He	0.060	ug/l	977.10
U	238	209	1	No Gas	0.001	ug/l	61.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2209520.01	86.3
Sc	45	2	H2	1016801.57	75.0
Sc	45	3	He	135890.69	85.2
Ge	72	1	No Gas	597535.99	89.2
Ge	72	2	H2	371917.01	81.6
Ge	72	3	He	86767.06	85.2
In	115	1	No Gas	4025287.02	88.2
In	115	3	He	900509.63	84.8
Tb	159	1	No Gas	5966123.47	94.0
Tb	159	3	He	2437455.24	91.9
Ho	165	1	No Gas	5916294.05	94.6
Ho	165	3	He	2415946.51	91.5
Lu	175	1	No Gas	6073979.70	95.8
Lu	175	3	He	2021216.72	91.3
Bi	209	1	No Gas	4180578.97	95.6
Bi	209	3	He	1814659.33	90.4

ICPMS207-B Analytical Data

Sample Name LCS4-163315
File Name 035LCS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 15:57:48
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	86.529	ug/l	432863.80
Be	9	45	1	No Gas	43.970	ug/l	100685.25
B	11	45	1	No Gas	94.078	ug/l	120249.61
Na	23	45	3	He	5298.661	ug/l	2262628.22
Mg	24	45	3	He	5164.913	ug/l	1225475.05
Al	27	45	1	No Gas	484.029	ug/l	4691445.10
Si	28	45	2	H2	980.203	ug/l	1076202.79
K	39	72	3	He	4909.241	ug/l	1268961.47
Ca	40	72	2	H2	4963.899	ug/l	20003117.62
Ti	47	72	1	No Gas	95.024	ug/l	93848.93
V	51	72	1	No Gas	109.413	ug/l	1241498.49
V	51	72	3	He	92.295	ug/l	225970.70
Cr	52	72	1	No Gas	96.849	ug/l	1145515.96
Cr	52	72	3	He	102.323	ug/l	226974.67
Mn	55	72	1	No Gas	506.158	ug/l	7272213.99
Mn	55	72	3	He	518.778	ug/l	753400.72
Fe	56	72	2	H2	503.475	ug/l	3787728.07
Fe	56	72	3	He	518.701	ug/l	1020853.48
Co	59	72	1	No Gas	96.917	ug/l	1164015.14
Ni	60	72	1	No Gas	100.034	ug/l	257421.94
Ni	60	72	3	He	103.402	ug/l	86904.48
Cu	63	72	1	No Gas	101.062	ug/l	651372.77
Cu	63	72	3	He	108.341	ug/l	234669.91
Cu	65	72	1	No Gas	103.860	ug/l	307690.73
Zn	66	72	1	No Gas	106.805	ug/l	221996.80
Zn	66	72	3	He	101.816	ug/l	50477.22
As	75	72	1	No Gas	98.334	ug/l	289285.69
As	75	72	3	He	100.844	ug/l	50569.77
Se	78	72	2	H2	101.037	ug/l	29207.01
Br	79	72	1	No Gas	0.688	ug/l	8575.57
Br	79	72	2	H2	0.735	ug/l	4914.44
Se	82	72	1	No Gas	103.594	ug/l	16952.24
Kr	84	72	1	No Gas		ug/l	28908.56
Sr	88	72	1	No Gas	104.178	ug/l	1929225.40
Sr	88	72	3	He	103.174	ug/l	232629.13
Mo	95	115	1	No Gas	94.986	ug/l	359322.06
Mo	95	115	3	He	98.805	ug/l	135014.78
Mo	98	115	1	No Gas	93.964	ug/l	578983.60
Ag	107	115	1	No Gas	9.518	ug/l	96285.91
Ag	109	115	1	No Gas	9.540	ug/l	92401.01
Cd	111	115	1	No Gas	52.033	ug/l	109675.54

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.148	ug/l	37343.17
Cd	114	115	1	No Gas	49.959	ug/l	246421.58
Cd	114	115	3	He	52.893	ug/l	91833.47
Sn	118	115	1	No Gas	97.548	ug/l	639184.57
Sn	118	115	3	He	102.936	ug/l	181746.14
Sb	121	115	1	No Gas	101.557	ug/l	1079040.41
Sb	121	115	3	He	101.039	ug/l	293519.07
Sb	123	115	1	No Gas	103.123	ug/l	843192.19
Sb	123	115	3	He	103.471	ug/l	236985.82
Ba	135	115	1	No Gas	95.491	ug/l	191837.27
Ba	137	115	1	No Gas	95.892	ug/l	331438.54
La	139	115	3	He	105.615	ug/l	1061093.41
Ce	140	115	3	He	105.050	ug/l	1151397.01
Hg	201	209	1	No Gas	0.010	ug/l	27.33
Hg	202	209	1	No Gas	0.013	ug/l	65.32
Hg	202	209	3	He	0.012	ug/l	28.66
Tl	203	209	3	He	100.729	ug/l	417052.43
Tl	205	209	1	No Gas	97.140	ug/l	2034057.02
Tl	205	209	3	He	98.069	ug/l	1010210.37
[Pb]	206	209	1	No Gas	96.986	ug/l	722636.95
[Pb]	207	209	1	No Gas	97.984	ug/l	632076.14
Pb	208	209	1	No Gas	97.968	ug/l	2898289.32
Th	232	209	3	He	97.255	ug/l	1420084.46
U	238	209	1	No Gas	100.180	ug/l	2941817.58

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2114241.94	82.6
Sc	45	2	H2	1169225.47	86.2
Sc	45	3	He	139242.55	87.3
Ge	72	1	No Gas	585083.64	87.3
Ge	72	2	H2	406659.91	89.3
Ge	72	3	He	90893.76	89.2
In	115	1	No Gas	3812891.91	83.6
In	115	3	He	929089.13	87.5
Tb	159	1	No Gas	5752320.35	90.7
Tb	159	3	He	2434747.79	91.8
Ho	165	1	No Gas	5614254.01	89.8
Ho	165	3	He	2438102.03	92.3
Lu	175	1	No Gas	5779860.86	91.1
Lu	175	3	He	2010184.93	90.8
Bi	209	1	No Gas	3930693.98	89.9
Bi	209	3	He	1842203.35	91.8

ICPMS207-B Analytical Data

Sample Name LCS4-163179
File Name 036LCS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:04:01
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	85.880	ug/l	428053.89
Be	9	45	1	No Gas	43.200	ug/l	98545.65
B	11	45	1	No Gas	94.952	ug/l	120902.10
Na	23	45	3	He	5264.766	ug/l	2221828.18
Mg	24	45	3	He	5232.581	ug/l	1226831.60
Al	27	45	1	No Gas	481.277	ug/l	4649056.84
Si	28	45	2	H2	975.693	ug/l	1063143.39
K	39	72	3	He	4932.069	ug/l	1263406.60
Ca	40	72	2	H2	4779.187	ug/l	19428997.06
Ti	47	72	1	No Gas	91.571	ug/l	90622.39
V	51	72	1	No Gas	106.193	ug/l	1202473.20
V	51	72	3	He	92.346	ug/l	224096.64
Cr	52	72	1	No Gas	97.744	ug/l	1158209.36
Cr	52	72	3	He	101.713	ug/l	223639.31
Mn	55	72	1	No Gas	511.278	ug/l	7365850.00
Mn	55	72	3	He	515.798	ug/l	742484.44
Fe	56	72	2	H2	494.300	ug/l	3749183.92
Fe	56	72	3	He	533.260	ug/l	1040294.91
Co	59	72	1	No Gas	96.802	ug/l	1164497.35
Ni	60	72	1	No Gas	100.729	ug/l	259531.43
Ni	60	72	3	He	102.195	ug/l	85137.57
Cu	63	72	1	No Gas	98.277	ug/l	634985.02
Cu	63	72	3	He	107.785	ug/l	231422.25
Cu	65	72	1	No Gas	101.638	ug/l	301674.71
Zn	66	72	1	No Gas	105.741	ug/l	220356.64
Zn	66	72	3	He	102.720	ug/l	50471.74
As	75	72	1	No Gas	101.380	ug/l	298252.06
As	75	72	3	He	100.335	ug/l	49877.81
Se	78	72	2	H2	98.599	ug/l	28734.52
Br	79	72	1	No Gas	0.506	ug/l	7527.07
Br	79	72	2	H2	0.549	ug/l	4285.49
Se	82	72	1	No Gas	102.324	ug/l	16783.93
Kr	84	72	1	No Gas		ug/l	29935.22
Sr	88	72	1	No Gas	103.231	ug/l	1916010.59
Sr	88	72	3	He	102.753	ug/l	229655.08
Mo	95	115	1	No Gas	93.319	ug/l	355534.69
Mo	95	115	3	He	100.132	ug/l	134990.13
Mo	98	115	1	No Gas	91.915	ug/l	570191.98
Ag	107	115	1	No Gas	9.250	ug/l	94208.56
Ag	109	115	1	No Gas	9.348	ug/l	91168.01
Cd	111	115	1	No Gas	50.814	ug/l	107857.44

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.564	ug/l	37141.18
Cd	114	115	1	No Gas	49.070	ug/l	243729.12
Cd	114	115	3	He	52.954	ug/l	90709.61
Sn	118	115	1	No Gas	96.637	ug/l	637495.72
Sn	118	115	3	He	105.202	ug/l	183259.24
Sb	121	115	1	No Gas	100.049	ug/l	1070483.15
Sb	121	115	3	He	101.739	ug/l	291617.16
Sb	123	115	1	No Gas	102.281	ug/l	842230.85
Sb	123	115	3	He	104.397	ug/l	235922.84
Ba	135	115	1	No Gas	97.135	ug/l	196546.14
Ba	137	115	1	No Gas	96.917	ug/l	337235.63
La	139	115	3	He	108.037	ug/l	1071098.73
Ce	140	115	3	He	105.254	ug/l	1138423.40
Hg	201	209	1	No Gas	0.004	ug/l	17.00
Hg	202	209	1	No Gas	0.012	ug/l	58.99
Hg	202	209	3	He	0.009	ug/l	22.33
Tl	203	209	3	He	102.790	ug/l	418639.61
Tl	205	209	1	No Gas	96.952	ug/l	2022044.85
Tl	205	209	3	He	98.507	ug/l	998059.09
[Pb]	206	209	1	No Gas	97.286	ug/l	721805.62
[Pb]	207	209	1	No Gas	97.237	ug/l	624168.94
Pb	208	209	1	No Gas	98.899	ug/l	2914095.96
Th	232	209	3	He	99.385	ug/l	1427512.86
U	238	209	1	No Gas	100.482	ug/l	2939339.39

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2106306.53	82.3
Sc	45	2	H2	1160503.86	85.6
Sc	45	3	He	137570.47	86.2
Ge	72	1	No Gas	586143.82	87.5
Ge	72	2	H2	410055.35	90.0
Ge	72	3	He	90094.23	88.4
In	115	1	No Gas	3840469.30	84.2
In	115	3	He	916633.48	86.3
Tb	159	1	No Gas	5709972.37	90.0
Tb	159	3	He	2383621.25	89.9
Ho	165	1	No Gas	5606780.96	89.7
Ho	165	3	He	2405483.21	91.1
Lu	175	1	No Gas	5703099.93	89.9
Lu	175	3	He	2010249.95	90.8
Bi	209	1	No Gas	3916650.70	89.6
Bi	209	3	He	1811888.53	90.3

ICPMS207-B Analytical Data

Sample Name LCS4-163290
File Name 037LCS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:10:15
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	94.620	ug/l	442657.23
Be	9	45	1	No Gas	47.065	ug/l	100808.81
B	11	45	1	No Gas	102.266	ug/l	122128.89
Na	23	45	3	He	5392.513	ug/l	2251673.89
Mg	24	45	3	He	5252.477	ug/l	1219044.68
Al	27	45	1	No Gas	513.014	ug/l	4651047.22
Si	28	45	2	H2	953.188	ug/l	1054881.94
K	39	72	3	He	4810.069	ug/l	1225394.30
Ca	40	72	2	H2	4686.374	ug/l	19272387.75
Ti	47	72	1	No Gas	93.717	ug/l	93078.88
V	51	72	1	No Gas	105.817	ug/l	1198582.87
V	51	72	3	He	94.388	ug/l	226414.09
Cr	52	72	1	No Gas	95.889	ug/l	1141464.85
Cr	52	72	3	He	102.123	ug/l	222853.46
Mn	55	72	1	No Gas	504.094	ug/l	7275906.19
Mn	55	72	3	He	513.824	ug/l	734133.95
Fe	56	72	2	H2	487.209	ug/l	3740338.85
Fe	56	72	3	He	515.274	ug/l	997904.00
Co	59	72	1	No Gas	99.513	ug/l	1202294.10
Ni	60	72	1	No Gas	101.669	ug/l	262783.13
Ni	60	72	3	He	103.551	ug/l	85636.62
Cu	63	72	1	No Gas	100.429	ug/l	650367.76
Cu	63	72	3	He	107.615	ug/l	229332.67
Cu	65	72	1	No Gas	104.284	ug/l	310517.89
Zn	66	72	1	No Gas	105.495	ug/l	220342.23
Zn	66	72	3	He	102.538	ug/l	50005.47
As	75	72	1	No Gas	103.206	ug/l	303825.87
As	75	72	3	He	99.724	ug/l	49207.42
Se	78	72	2	H2	97.546	ug/l	28769.03
Br	79	72	1	No Gas	0.537	ug/l	7723.43
Br	79	72	2	H2	0.679	ug/l	4811.28
Se	82	72	1	No Gas	100.744	ug/l	16553.57
Kr	84	72	1	No Gas		ug/l	29935.20
Sr	88	72	1	No Gas	102.955	ug/l	1916290.94
Sr	88	72	3	He	104.908	ug/l	232705.78
Mo	95	115	1	No Gas	101.433	ug/l	357820.31
Mo	95	115	3	He	100.406	ug/l	135648.57
Mo	98	115	1	No Gas	103.507	ug/l	594541.72
Ag	107	115	1	No Gas	10.239	ug/l	96631.37
Ag	109	115	1	No Gas	10.359	ug/l	93564.18
Cd	111	115	1	No Gas	56.252	ug/l	110546.22

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.894	ug/l	36741.15
Cd	114	115	1	No Gas	54.064	ug/l	248792.63
Cd	114	115	3	He	52.305	ug/l	89795.36
Sn	118	115	1	No Gas	107.202	ug/l	652546.81
Sn	118	115	3	He	101.939	ug/l	178013.42
Sb	121	115	1	No Gas	110.645	ug/l	1096011.83
Sb	121	115	3	He	100.525	ug/l	288772.32
Sb	123	115	1	No Gas	111.879	ug/l	853264.80
Sb	123	115	3	He	103.004	ug/l	233309.49
Ba	135	115	1	No Gas	105.878	ug/l	198247.37
Ba	137	115	1	No Gas	107.646	ug/l	346802.37
La	139	115	3	He	106.052	ug/l	1053549.65
Ce	140	115	3	He	104.595	ug/l	1133974.90
Hg	201	209	1	No Gas	0.012	ug/l	27.66
Hg	202	209	1	No Gas	0.016	ug/l	72.32
Hg	202	209	3	He	0.010	ug/l	24.99
Tl	203	209	3	He	101.159	ug/l	415973.91
Tl	205	209	1	No Gas	103.011	ug/l	2036657.30
Tl	205	209	3	He	97.781	ug/l	1000493.02
[Pb]	206	209	1	No Gas	104.546	ug/l	733886.50
[Pb]	207	209	1	No Gas	105.268	ug/l	640612.15
Pb	208	209	1	No Gas	105.522	ug/l	2942018.12
Th	232	209	3	He	96.455	ug/l	1398918.21
U	238	209	1	No Gas	105.989	ug/l	2932135.75

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1992263.79	77.9
Sc	45	2	H2	1178529.26	86.9
Sc	45	3	He	136167.56	85.3
Ge	72	1	No Gas	590291.77	88.1
Ge	72	2	H2	414880.01	91.1
Ge	72	3	He	89424.69	87.8
In	115	1	No Gas	3589680.04	78.7
In	115	3	He	918698.56	86.5
Tb	159	1	No Gas	5448956.52	85.9
Tb	159	3	He	2407146.54	90.8
Ho	165	1	No Gas	5391771.11	86.2
Ho	165	3	He	2397516.37	90.8
Lu	175	1	No Gas	5472577.96	86.3
Lu	175	3	He	1993223.88	90.0
Bi	209	1	No Gas	3730470.69	85.3
Bi	209	3	He	1829591.23	91.2

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 038BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:16:28
Sample Type BkVrfy
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	0.134	ug/l	12228.50
Be	9	45	1	No Gas	-0.086	ug/l	210.96
B	11	45	1	No Gas	1.306	ug/l	3168.27
Na	23	45	3	He	16.599	ug/l	48610.38
Mg	24	45	3	He	5.570	ug/l	4232.22
Al	27	45	1	No Gas	-0.226	ug/l	40536.00
Si	28	45	2	H2	-0.998	ug/l	6700.19
K	39	72	3	He	14.109	ug/l	111566.74
Ca	40	72	2	H2	2.742	ug/l	121053.05
Ti	47	72	1	No Gas	-0.006	ug/l	253.59
V	51	72	1	No Gas	2.887	ug/l	-71450.74
V	51	72	3	He	-11.071	ug/l	19544.14
Cr	52	72	1	No Gas	-4.667	ug/l	58119.58
Cr	52	72	3	He	-0.007	ug/l	856.70
Mn	55	72	1	No Gas	-0.086	ug/l	14048.82
Mn	55	72	3	He	-0.002	ug/l	145.30
Fe	56	72	2	H2	0.076	ug/l	14438.39
Fe	56	72	3	He	-0.100	ug/l	6070.70
Co	59	72	1	No Gas	0.000	ug/l	545.60
Ni	60	72	1	No Gas	-0.036	ug/l	565.56
Ni	60	72	3	He	-0.019	ug/l	92.22
Cu	63	72	1	No Gas	0.098	ug/l	2535.93
Cu	63	72	3	He	-0.002	ug/l	383.93
Cu	65	72	1	No Gas	-0.024	ug/l	522.89
Zn	66	72	1	No Gas	0.183	ug/l	846.70
Zn	66	72	3	He	0.269	ug/l	245.56
As	75	72	1	No Gas	-3.436	ug/l	13614.93
As	75	72	3	He	-0.197	ug/l	420.60
Se	78	72	2	H2	0.003	ug/l	38.22
Br	79	72	1	No Gas	0.141	ug/l	5889.55
Br	79	72	2	H2	0.238	ug/l	3317.16
Se	82	72	1	No Gas	-0.456	ug/l	562.88
Kr	84	72	1	No Gas		ug/l	17692.63
Sr	88	72	1	No Gas	0.001	ug/l	266.14
Sr	88	72	3	He	0.008	ug/l	66.67
Mo	95	115	1	No Gas	0.030	ug/l	158.89
Mo	95	115	3	He	0.029	ug/l	48.89
Mo	98	115	1	No Gas	0.036	ug/l	278.41
Ag	107	115	1	No Gas	0.003	ug/l	861.04
Ag	109	115	1	No Gas	-0.005	ug/l	765.66
Cd	111	115	1	No Gas	0.017	ug/l	33.16

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.010	ug/l	11.89
Cd	114	115	1	No Gas	0.018	ug/l	32.13
Cd	114	115	3	He	0.007	ug/l	23.81
Sn	118	115	1	No Gas	-0.071	ug/l	1969.57
Sn	118	115	3	He	0.009	ug/l	550.02
Sb	121	115	1	No Gas	0.180	ug/l	2319.43
Sb	121	115	3	He	0.195	ug/l	625.41
Sb	123	115	1	No Gas	0.180	ug/l	1785.97
Sb	123	115	3	He	0.188	ug/l	476.73
Ba	135	115	1	No Gas	0.009	ug/l	33.27
Ba	137	115	1	No Gas	0.005	ug/l	49.90
La	139	115	3	He	0.000	ug/l	13.33
Ce	140	115	3	He	0.001	ug/l	16.67
Hg	201	209	1	No Gas	0.002	ug/l	15.00
Hg	202	209	1	No Gas	0.006	ug/l	43.99
Hg	202	209	3	He	0.006	ug/l	19.00
Tl	203	209	3	He	0.248	ug/l	1414.65
Tl	205	209	1	No Gas	0.174	ug/l	5583.44
Tl	205	209	3	He	0.240	ug/l	3363.78
[Pb]	206	209	1	No Gas	-0.075	ug/l	2989.25
[Pb]	207	209	1	No Gas	-0.056	ug/l	2502.47
Pb	208	209	1	No Gas	-0.065	ug/l	11509.78
Th	232	209	3	He	0.152	ug/l	2490.57
U	238	209	1	No Gas	0.006	ug/l	218.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2390329.53	93.4
Sc	45	2	H2	1268981.22	93.6
Sc	45	3	He	145082.59	90.9
Ge	72	1	No Gas	639675.77	95.5
Ge	72	2	H2	429919.85	94.4
Ge	72	3	He	92464.42	90.8
In	115	1	No Gas	4381213.77	96.0
In	115	3	He	976059.92	91.9
Tb	159	1	No Gas	6334814.85	99.9
Tb	159	3	He	2574085.27	97.1
Ho	165	1	No Gas	6274602.82	100.3
Ho	165	3	He	2536202.47	96.0
Lu	175	1	No Gas	6338474.86	99.9
Lu	175	3	He	2137849.31	96.6
Bi	209	1	No Gas	4428594.24	101.3
Bi	209	3	He	1967968.73	98.1

ICPMS207-B Analytical Data

Sample Name B22011446-001A
File Name 039SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:22:41
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	2.137	ug/l	26094.79
Be	9	45	1	No Gas	-0.100	ug/l	196.96
B	11	45	1	No Gas	42.758	ug/l	69997.03
Na	23	45	3	He	33456.137	ug/l	16233850.45
Mg	24	45	3	He	9912.226	ug/l	2709732.27
Al	27	45	1	No Gas	4.058	ug/l	97648.35
Si	28	45	2	H2	22862.025	ug/l	29165115.37
K	39	72	3	He	3383.616	ug/l	1025313.72
Ca	40	72	2	H2	10581.710	ug/l	46305214.41
Ti	47	72	1	No Gas	2.019	ug/l	2502.77
V	51	72	1	No Gas	20.730	ug/l	172324.01
V	51	72	3	He	3.032	ug/l	53570.37
Cr	52	72	1	No Gas	-3.283	ug/l	76512.45
Cr	52	72	3	He	2.215	ug/l	6498.15
Mn	55	72	1	No Gas	-0.096	ug/l	14268.62
Mn	55	72	3	He	0.218	ug/l	522.57
Fe	56	72	2	H2	3.979	ug/l	46731.21
Fe	56	72	3	He	3.374	ug/l	14416.64
Co	59	72	1	No Gas	0.027	ug/l	921.54
Ni	60	72	1	No Gas	0.920	ug/l	3340.45
Ni	60	72	3	He	0.895	ug/l	970.04
Cu	63	72	1	No Gas	0.917	ug/l	8527.91
Cu	63	72	3	He	0.644	ug/l	2003.41
Cu	65	72	1	No Gas	0.717	ug/l	2999.52
Zn	66	72	1	No Gas	10.061	ug/l	23905.66
Zn	66	72	3	He	9.169	ug/l	5244.31
As	75	72	1	No Gas	-5.690	ug/l	7080.19
As	75	72	3	He	-0.550	ug/l	269.20
Se	78	72	2	H2	0.085	ug/l	65.00
Br	79	72	1	No Gas	12.670	ug/l	88215.71
Br	79	72	2	H2	11.899	ug/l	48802.13
Se	82	72	1	No Gas	-0.484	ug/l	570.88
Kr	84	72	1	No Gas		ug/l	25925.37
Sr	88	72	1	No Gas	76.805	ug/l	1598696.71
Sr	88	72	3	He	71.060	ug/l	181014.16
Mo	95	115	1	No Gas	0.124	ug/l	593.35
Mo	95	115	3	He	0.142	ug/l	224.45
Mo	98	115	1	No Gas	0.127	ug/l	965.74
Ag	107	115	1	No Gas	-0.062	ug/l	118.05
Ag	109	115	1	No Gas	-0.064	ug/l	122.05
Cd	111	115	1	No Gas	0.030	ug/l	69.16

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.020	ug/l	21.45
Cd	114	115	1	No Gas	0.032	ug/l	115.82
Cd	114	115	3	He	0.017	ug/l	46.03
Sn	118	115	1	No Gas	0.187	ug/l	4075.86
Sn	118	115	3	He	0.280	ug/l	1122.28
Sb	121	115	1	No Gas	0.276	ug/l	3644.18
Sb	121	115	3	He	0.285	ug/l	961.47
Sb	123	115	1	No Gas	0.275	ug/l	2798.89
Sb	123	115	3	He	0.291	ug/l	772.43
Ba	135	115	1	No Gas	4.156	ug/l	10037.07
Ba	137	115	1	No Gas	4.359	ug/l	18105.89
La	139	115	3	He	0.001	ug/l	24.44
Ce	140	115	3	He	0.004	ug/l	57.78
Hg	201	209	1	No Gas	0.004	ug/l	20.66
Hg	202	209	1	No Gas	0.014	ug/l	77.98
Hg	202	209	3	He	0.018	ug/l	43.32
Tl	203	209	3	He	0.087	ug/l	735.65
Tl	205	209	1	No Gas	0.064	ug/l	3140.39
Tl	205	209	3	He	0.085	ug/l	1730.81
[Pb]	206	209	1	No Gas	-0.119	ug/l	2750.31
[Pb]	207	209	1	No Gas	-0.099	ug/l	2294.67
Pb	208	209	1	No Gas	-0.109	ug/l	10519.47
Th	232	209	3	He	0.028	ug/l	592.92
U	238	209	1	No Gas	0.021	ug/l	759.87

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2679289.33	104.7
Sc	45	2	H2	1367500.81	100.9
Sc	45	3	He	160563.88	100.6
Ge	72	1	No Gas	657396.60	98.1
Ge	72	2	H2	442818.89	97.2
Ge	72	3	He	102668.21	100.8
In	115	1	No Gas	4577576.49	100.3
In	115	3	He	1041710.70	98.1
Tb	159	1	No Gas	6721674.25	106.0
Tb	159	3	He	2715988.50	102.5
Ho	165	1	No Gas	6565140.01	105.0
Ho	165	3	He	2709564.42	102.6
Lu	175	1	No Gas	6641053.63	104.7
Lu	175	3	He	2279621.86	103.0
Bi	209	1	No Gas	4632746.37	106.0
Bi	209	3	He	2053853.99	102.4

ICPMS207-B Analytical Data

Sample Name B22011446-001ADIL
File Name 040ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:28:55
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	1.537	ug/l	13313.84
Be	9	45	1	No Gas	-0.426	ug/l	214.96
B	11	45	1	No Gas	56.929	ug/l	17757.54
Na	23	45	3	He	33625.496	ug/l	3002976.45
Mg	24	45	3	He	9830.440	ug/l	491517.40
Al	27	45	1	No Gas	-1.137	ug/l	40951.36
Si	28	45	2	H2	22671.249	ug/l	5268468.18
K	39	72	3	He	3243.470	ug/l	270158.09
Ca	40	72	2	H2	10504.578	ug/l	8805590.59
Ti	47	72	1	No Gas	3.596	ug/l	1010.10
V	51	72	1	No Gas	47.082	ug/l	15555.63
V	51	72	3	He	-8.751	ug/l	39340.15
Cr	52	72	1	No Gas	-9.602	ug/l	88647.51
Cr	52	72	3	He	2.312	ug/l	1953.48
Mn	55	72	1	No Gas	0.037	ug/l	15194.50
Mn	55	72	3	He	0.277	ug/l	235.62
Fe	56	72	2	H2	4.894	ug/l	21099.06
Fe	56	72	3	He	2.568	ug/l	7454.44
Co	59	72	1	No Gas	0.024	ug/l	592.18
Ni	60	72	1	No Gas	0.695	ug/l	1034.66
Ni	60	72	3	He	0.848	ug/l	260.00
Cu	63	72	1	No Gas	1.015	ug/l	3210.98
Cu	63	72	3	He	0.816	ug/l	762.53
Cu	65	72	1	No Gas	0.849	ug/l	1125.16
Zn	66	72	1	No Gas	10.673	ug/l	5166.50
Zn	66	72	3	He	10.657	ug/l	1208.95
As	75	72	1	No Gas	-18.820	ug/l	12444.02
As	75	72	3	He	-1.179	ug/l	409.87
Se	78	72	2	H2	0.126	ug/l	43.89
Br	79	72	1	No Gas	79.343	ug/l	104118.46
Br	79	72	2	H2	76.902	ug/l	59156.67
Se	82	72	1	No Gas	-1.516	ug/l	579.14
Kr	84	72	1	No Gas		ug/l	18435.34
Sr	88	72	1	No Gas	73.818	ug/l	293083.79
Sr	88	72	3	He	74.909	ug/l	35161.89
Mo	95	115	1	No Gas	0.186	ug/l	191.11
Mo	95	115	3	He	0.194	ug/l	65.56
Mo	98	115	1	No Gas	0.161	ug/l	255.36
Ag	107	115	1	No Gas	-0.321	ug/l	88.70
Ag	109	115	1	No Gas	-0.337	ug/l	81.37
Cd	111	115	1	No Gas	0.058	ug/l	20.54

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.109	ug/l	22.22
Cd	114	115	1	No Gas	0.089	ug/l	30.93
Cd	114	115	3	He	0.066	ug/l	37.57
Sn	118	115	1	No Gas	0.967	ug/l	3966.04
Sn	118	115	3	He	1.067	ug/l	966.71
Sb	121	115	1	No Gas	0.448	ug/l	1221.51
Sb	121	115	3	He	0.455	ug/l	322.37
Sb	123	115	1	No Gas	0.457	ug/l	956.13
Sb	123	115	3	He	0.451	ug/l	251.70
Ba	135	115	1	No Gas	4.179	ug/l	1949.61
Ba	137	115	1	No Gas	4.176	ug/l	3357.11
La	139	115	3	He	0.003	ug/l	21.11
Ce	140	115	3	He	0.011	ug/l	34.44
Hg	201	209	1	No Gas	0.035	ug/l	26.66
Hg	202	209	1	No Gas	0.062	ug/l	73.65
Hg	202	209	3	He	0.108	ug/l	51.66
Tl	203	209	3	He	0.350	ug/l	671.67
Tl	205	209	1	No Gas	0.185	ug/l	2514.70
Tl	205	209	3	He	0.270	ug/l	1413.31
[Pb]	206	209	1	No Gas	-0.512	ug/l	2935.90
[Pb]	207	209	1	No Gas	-0.335	ug/l	2573.59
Pb	208	209	1	No Gas	-0.399	ug/l	11700.97
Th	232	209	3	He	0.137	ug/l	592.92
U	238	209	1	No Gas	0.028	ug/l	230.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2412721.31	94.3
Sc	45	2	H2	1244170.02	91.8
Sc	45	3	He	146143.83	91.6
Ge	72	1	No Gas	626747.14	93.6
Ge	72	2	H2	420129.67	92.2
Ge	72	3	He	94515.66	92.8
In	115	1	No Gas	4398907.10	96.4
In	115	3	He	1016731.97	95.8
Tb	159	1	No Gas	6509587.64	102.6
Tb	159	3	He	2692066.37	101.5
Ho	165	1	No Gas	6440228.65	103.0
Ho	165	3	He	2688929.93	101.8
Lu	175	1	No Gas	6584348.65	103.8
Lu	175	3	He	2254800.03	101.8
Bi	209	1	No Gas	4704281.31	107.6
Bi	209	3	He	2105805.21	105.0

ICPMS207-B Analytical Data

Sample Name B22011446-001AMS
File Name 041MS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:35:08
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	2185.458	ug/l	12190962.19
Be	9	45	1	No Gas	46.327	ug/l	121017.94
B	11	45	1	No Gas	91.920	ug/l	134087.58
Na	23	45	3	He	84213.054	ug/l	37325575.83
Mg	24	45	3	He	61303.666	ug/l	15318183.40
Al	27	45	1	No Gas	52.436	ug/l	620138.96
Si	28	45	2	H2	22455.971	ug/l	26051215.89
K	39	72	3	He	52298.971	ug/l	12957818.14
Ca	40	72	2	H2	57436.596	ug/l	247594052.00
Ti	47	72	1	No Gas	55.692	ug/l	61142.43
V	51	72	1	No Gas	69.777	ug/l	833599.71
V	51	72	3	He	61.559	ug/l	171866.12
Cr	52	72	1	No Gas	49.556	ug/l	710132.16
Cr	52	72	3	He	53.530	ug/l	123570.76
Mn	55	72	1	No Gas	51.846	ug/l	841566.04
Mn	55	72	3	He	52.059	ug/l	78546.12
Fe	56	72	2	H2	4964.671	ug/l	40029443.87
Fe	56	72	3	He	5237.587	ug/l	10632561.15
Co	59	72	1	No Gas	50.615	ug/l	674707.20
Ni	60	72	1	No Gas	53.397	ug/l	152723.69
Ni	60	72	3	He	52.967	ug/l	46224.05
Cu	63	72	1	No Gas	51.268	ug/l	367736.42
Cu	63	72	3	He	55.005	ug/l	123760.27
Cu	65	72	1	No Gas	53.580	ug/l	176431.97
Zn	66	72	1	No Gas	65.656	ug/l	151658.06
Zn	66	72	3	He	63.064	ug/l	32466.24
As	75	72	1	No Gas	53.733	ug/l	187142.39
As	75	72	3	He	52.119	ug/l	27376.95
Se	78	72	2	H2	52.187	ug/l	16236.50
Br	79	72	1	No Gas	14.736	ug/l	100682.85
Br	79	72	2	H2	14.101	ug/l	56712.03
Se	82	72	1	No Gas	53.506	ug/l	10047.61
Kr	84	72	1	No Gas		ug/l	33449.24
Sr	88	72	1	No Gas	123.381	ug/l	2535660.90
Sr	88	72	3	He	126.236	ug/l	295205.24
Mo	95	115	1	No Gas	49.691	ug/l	210232.85
Mo	95	115	3	He	50.694	ug/l	72905.08
Mo	98	115	1	No Gas	48.506	ug/l	334145.36
Ag	107	115	1	No Gas	20.982	ug/l	236276.68
Ag	109	115	1	No Gas	20.586	ug/l	222021.74
Cd	111	115	1	No Gas	54.485	ug/l	128432.75

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.881	ug/l	40635.39
Cd	114	115	1	No Gas	52.673	ug/l	290552.17
Cd	114	115	3	He	54.483	ug/l	99559.67
Sn	118	115	1	No Gas	50.972	ug/l	374657.01
Sn	118	115	3	He	51.980	ug/l	96895.60
Sb	121	115	1	No Gas	52.082	ug/l	618857.38
Sb	121	115	3	He	51.254	ug/l	156736.53
Sb	123	115	1	No Gas	52.044	ug/l	475940.80
Sb	123	115	3	He	51.955	ug/l	125269.08
Ba	135	115	1	No Gas	59.660	ug/l	134052.98
Ba	137	115	1	No Gas	59.704	ug/l	230751.08
La	139	115	3	He	0.012	ug/l	137.78
Ce	140	115	3	He	52.938	ug/l	610873.32
Hg	201	209	1	No Gas	1.144	ug/l	2119.09
Hg	202	209	1	No Gas	1.093	ug/l	4546.87
Hg	202	209	3	He	1.077	ug/l	2000.75
Tl	203	209	3	He	52.152	ug/l	227876.88
Tl	205	209	1	No Gas	52.889	ug/l	1255621.47
Tl	205	209	3	He	50.467	ug/l	548610.38
[Pb]	206	209	1	No Gas	51.697	ug/l	438328.42
[Pb]	207	209	1	No Gas	52.380	ug/l	384470.80
Pb	208	209	1	No Gas	52.474	ug/l	1767012.64
Th	232	209	3	He	51.231	ug/l	788987.62
U	238	209	1	No Gas	53.521	ug/l	1782272.38

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2486775.76	97.2
Sc	45	2	H2	1281102.54	94.5
Sc	45	3	He	151329.67	94.9
Ge	72	1	No Gas	668595.13	99.8
Ge	72	2	H2	450256.65	98.8
Ge	72	3	He	97084.74	95.3
In	115	1	No Gas	4394804.78	96.3
In	115	3	He	1007120.21	94.8
Tb	159	1	No Gas	6746758.35	106.4
Tb	159	3	He	2727337.87	102.9
Ho	165	1	No Gas	6644442.49	106.2
Ho	165	3	He	2739056.67	103.7
Lu	175	1	No Gas	6789052.25	107.0
Lu	175	3	He	2309157.64	104.3
Bi	209	1	No Gas	4591418.77	105.0
Bi	209	3	He	2001262.64	99.7

ICPMS207-B Analytical Data

Sample Name B22011446-001AMSD
File Name 042MSD.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:41:22
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	2045.717	ug/l	11482173.61
Be	9	45	1	No Gas	43.447	ug/l	114154.97
B	11	45	1	No Gas	87.864	ug/l	128960.27
Na	23	45	3	He	83897.242	ug/l	37116771.39
Mg	24	45	3	He	61499.314	ug/l	15339962.14
Al	27	45	1	No Gas	49.863	ug/l	595419.37
Si	28	45	2	H2	22288.918	ug/l	25805730.87
K	39	72	3	He	51545.374	ug/l	12763109.81
Ca	40	72	2	H2	59002.120	ug/l	243863119.53
Ti	47	72	1	No Gas	55.439	ug/l	59105.63
V	51	72	1	No Gas	72.675	ug/l	849745.30
V	51	72	3	He	59.405	ug/l	167287.35
Cr	52	72	1	No Gas	50.791	ug/l	703468.35
Cr	52	72	3	He	53.111	ug/l	122529.90
Mn	55	72	1	No Gas	50.611	ug/l	797455.87
Mn	55	72	3	He	50.902	ug/l	76750.47
Fe	56	72	2	H2	5054.179	ug/l	39071510.14
Fe	56	72	3	He	5219.810	ug/l	10588708.86
Co	59	72	1	No Gas	49.347	ug/l	638198.29
Ni	60	72	1	No Gas	53.029	ug/l	147199.43
Ni	60	72	3	He	51.760	ug/l	45146.29
Cu	63	72	1	No Gas	51.122	ug/l	355860.17
Cu	63	72	3	He	53.956	ug/l	121309.97
Cu	65	72	1	No Gas	53.422	ug/l	170732.71
Zn	66	72	1	No Gas	65.838	ug/l	147555.31
Zn	66	72	3	He	61.544	ug/l	31672.18
As	75	72	1	No Gas	52.882	ug/l	179066.53
As	75	72	3	He	51.586	ug/l	27083.93
Se	78	72	2	H2	52.012	ug/l	15516.37
Br	79	72	1	No Gas	15.959	ug/l	105349.34
Br	79	72	2	H2	14.910	ug/l	57349.35
Se	82	72	1	No Gas	54.271	ug/l	9885.20
Kr	84	72	1	No Gas		ug/l	31948.64
Sr	88	72	1	No Gas	128.500	ug/l	2562934.25
Sr	88	72	3	He	125.180	ug/l	292486.88
Mo	95	115	1	No Gas	48.110	ug/l	201870.14
Mo	95	115	3	He	50.943	ug/l	72747.57
Mo	98	115	1	No Gas	47.622	ug/l	325479.42
Ag	107	115	1	No Gas	20.060	ug/l	224153.02
Ag	109	115	1	No Gas	19.885	ug/l	212757.70
Cd	111	115	1	No Gas	52.765	ug/l	123382.09

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.408	ug/l	39988.99
Cd	114	115	1	No Gas	50.879	ug/l	278389.62
Cd	114	115	3	He	54.227	ug/l	98397.75
Sn	118	115	1	No Gas	49.497	ug/l	360942.91
Sn	118	115	3	He	51.303	ug/l	94970.11
Sb	121	115	1	No Gas	51.002	ug/l	601108.45
Sb	121	115	3	He	50.830	ug/l	154351.29
Sb	123	115	1	No Gas	51.366	ug/l	465999.25
Sb	123	115	3	He	51.184	ug/l	122544.17
Ba	135	115	1	No Gas	56.801	ug/l	126664.15
Ba	137	115	1	No Gas	57.727	ug/l	221301.98
La	139	115	3	He	0.003	ug/l	48.89
Ce	140	115	3	He	52.517	ug/l	601739.20
Hg	201	209	1	No Gas	1.063	ug/l	1913.09
Hg	202	209	1	No Gas	1.060	ug/l	4284.83
Hg	202	209	3	He	1.020	ug/l	1917.76
Tl	203	209	3	He	50.389	ug/l	222684.47
Tl	205	209	1	No Gas	51.849	ug/l	1195926.45
Tl	205	209	3	He	48.168	ug/l	529593.39
[Pb]	206	209	1	No Gas	50.922	ug/l	419572.47
[Pb]	207	209	1	No Gas	50.839	ug/l	362645.49
Pb	208	209	1	No Gas	51.690	ug/l	1691148.01
Th	232	209	3	He	48.630	ug/l	757448.11
U	238	209	1	No Gas	52.947	ug/l	1713339.96

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2499237.92	97.7
Sc	45	2	H2	1278453.95	94.3
Sc	45	3	He	151038.41	94.7
Ge	72	1	No Gas	648993.48	96.9
Ge	72	2	H2	431702.06	94.8
Ge	72	3	He	97032.92	95.2
In	115	1	No Gas	4359009.42	95.5
In	115	3	He	1000078.77	94.2
Tb	159	1	No Gas	6737211.04	106.2
Tb	159	3	He	2690966.63	101.5
Ho	165	1	No Gas	6571824.09	105.1
Ho	165	3	He	2712346.13	102.7
Lu	175	1	No Gas	6627633.18	104.5
Lu	175	3	He	2290625.05	103.5
Bi	209	1	No Gas	4461314.03	102.0
Bi	209	3	He	2023629.19	100.9

ICPMS207-B Analytical Data

Sample Name CCV
File Name 043_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:47:36
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	530.489	ug/l	2932188.49
Be	9	45	1	No Gas	47.388	ug/l	122265.70
B	11	45	1	No Gas	51.479	ug/l	74752.30
Na	23	45	3	He	12938.266	ug/l	5821232.83
Mg	24	45	3	He	12934.521	ug/l	3263308.62
Al	27	45	1	No Gas	49.492	ug/l	579363.92
Si	28	45	2	H2	213.134	ug/l	257311.66
K	39	72	3	He	11956.864	ug/l	3126090.58
Ca	40	72	2	H2	12101.585	ug/l	51947681.27
Ti	47	72	1	No Gas	51.531	ug/l	56730.34
V	51	72	1	No Gas	55.468	ug/l	644291.92
V	51	72	3	He	50.262	ug/l	150970.41
Cr	52	72	1	No Gas	51.598	ug/l	732756.08
Cr	52	72	3	He	55.363	ug/l	131067.62
Mn	55	72	1	No Gas	54.922	ug/l	891939.92
Mn	55	72	3	He	55.581	ug/l	86016.36
Fe	56	72	2	H2	1315.755	ug/l	10550340.39
Fe	56	72	3	He	1348.407	ug/l	2813488.31
Co	59	72	1	No Gas	53.563	ug/l	715425.43
Ni	60	72	1	No Gas	55.392	ug/l	158726.39
Ni	60	72	3	He	57.135	ug/l	51147.95
Cu	63	72	1	No Gas	54.708	ug/l	393097.88
Cu	63	72	3	He	59.000	ug/l	136151.38
Cu	65	72	1	No Gas	56.792	ug/l	187369.73
Zn	66	72	1	No Gas	59.421	ug/l	137566.13
Zn	66	72	3	He	57.993	ug/l	30640.03
As	75	72	1	No Gas	54.608	ug/l	189406.60
As	75	72	3	He	55.707	ug/l	29966.29
Se	78	72	2	H2	56.545	ug/l	17474.25
Br	79	72	1	No Gas	0.662	ug/l	9377.82
Br	79	72	2	H2	0.624	ug/l	4824.59
Se	82	72	1	No Gas	58.342	ug/l	10900.02
Kr	84	72	1	No Gas		ug/l	24125.80
Sr	88	72	1	No Gas	58.074	ug/l	1196196.47
Sr	88	72	3	He	57.422	ug/l	137766.38
Mo	95	115	1	No Gas	51.169	ug/l	219001.59
Mo	95	115	3	He	53.097	ug/l	79297.96
Mo	98	115	1	No Gas	51.876	ug/l	361516.90
Ag	107	115	1	No Gas	21.022	ug/l	239474.45
Ag	109	115	1	No Gas	20.962	ug/l	228666.75
Cd	111	115	1	No Gas	57.661	ug/l	137503.06

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	56.857	ug/l	45365.70
Cd	114	115	1	No Gas	55.746	ug/l	311056.08
Cd	114	115	3	He	58.828	ug/l	111616.72
Sn	118	115	1	No Gas	51.918	ug/l	385873.04
Sn	118	115	3	He	54.159	ug/l	104793.29
Sb	121	115	1	No Gas	55.373	ug/l	665640.84
Sb	121	115	3	He	54.555	ug/l	173228.82
Sb	123	115	1	No Gas	55.290	ug/l	511484.01
Sb	123	115	3	He	54.720	ug/l	136987.26
Ba	135	115	1	No Gas	57.481	ug/l	130677.61
Ba	137	115	1	No Gas	56.587	ug/l	221262.14
La	139	115	3	He	51.536	ug/l	565923.86
Ce	140	115	3	He	51.108	ug/l	612348.71
Hg	201	209	1	No Gas	0.934	ug/l	1824.43
Hg	202	209	1	No Gas	0.962	ug/l	4218.16
Hg	202	209	3	He	0.979	ug/l	1942.09
Tl	203	209	3	He	53.766	ug/l	250939.58
Tl	205	209	1	No Gas	52.601	ug/l	1316339.68
Tl	205	209	3	He	52.230	ug/l	606450.70
[Pb]	206	209	1	No Gas	53.061	ug/l	473898.17
[Pb]	207	209	1	No Gas	51.362	ug/l	397330.01
Pb	208	209	1	No Gas	53.008	ug/l	1880177.21
Th	232	209	3	He	52.758	ug/l	867947.31
U	238	209	1	No Gas	54.275	ug/l	1904476.58

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2383645.76	93.2
Sc	45	2	H2	1255449.79	92.6
Sc	45	3	He	148221.14	92.9
Ge	72	1	No Gas	650441.25	97.1
Ge	72	2	H2	434449.84	95.4
Ge	72	3	He	96703.78	94.9
In	115	1	No Gas	4315290.40	94.6
In	115	3	He	1015343.13	95.6
Tb	159	1	No Gas	6495825.49	102.4
Tb	159	3	He	2699872.88	101.8
Ho	165	1	No Gas	6553067.84	104.8
Ho	165	3	He	2704751.14	102.4
Lu	175	1	No Gas	6715761.00	105.9
Lu	175	3	He	2239669.96	101.2
Bi	209	1	No Gas	4698333.82	107.5
Bi	209	3	He	2075218.41	103.4

ICPMS207-B Analytical Data

Sample Name CCB
File Name 044_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 16:53:51
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	3.080	ug/l	27653.54
Be	9	45	1	No Gas	-0.094	ug/l	183.63
B	11	45	1	No Gas	2.140	ug/l	4234.30
Na	23	45	3	He	46.407	ug/l	59986.66
Mg	24	45	3	He	7.442	ug/l	4568.33
Al	27	45	1	No Gas	-2.286	ug/l	17659.32
Si	28	45	2	H2	-1.153	ug/l	6553.41
K	39	72	3	He	-46.853	ug/l	100461.08
Ca	40	72	2	H2	-2.205	ug/l	101000.05
Ti	47	72	1	No Gas	0.085	ug/l	343.72
V	51	72	1	No Gas	4.375	ug/l	-50305.45
V	51	72	3	He	-2.180	ug/l	39028.59
Cr	52	72	1	No Gas	-2.505	ug/l	81477.27
Cr	52	72	3	He	0.004	ug/l	914.48
Mn	55	72	1	No Gas	-0.023	ug/l	14648.34
Mn	55	72	3	He	-0.012	ug/l	135.31
Fe	56	72	2	H2	-0.155	ug/l	12719.98
Fe	56	72	3	He	-0.212	ug/l	6064.04
Co	59	72	1	No Gas	-0.013	ug/l	365.95
Ni	60	72	1	No Gas	-0.073	ug/l	449.12
Ni	60	72	3	He	-0.062	ug/l	57.78
Cu	63	72	1	No Gas	-0.022	ug/l	1654.09
Cu	63	72	3	He	-0.021	ug/l	354.60
Cu	65	72	1	No Gas	-0.021	ug/l	516.88
Zn	66	72	1	No Gas	-0.047	ug/l	315.53
Zn	66	72	3	He	-0.031	ug/l	97.78
As	75	72	1	No Gas	-3.844	ug/l	12091.96
As	75	72	3	He	-0.185	ug/l	442.33
Se	78	72	2	H2	-0.001	ug/l	37.11
Br	79	72	1	No Gas	0.335	ug/l	6951.25
Br	79	72	2	H2	0.327	ug/l	3689.82
Se	82	72	1	No Gas	-0.422	ug/l	554.87
Kr	84	72	1	No Gas		ug/l	15797.44
Sr	88	72	1	No Gas	0.003	ug/l	306.08
Sr	88	72	3	He	0.012	ug/l	76.67
Mo	95	115	1	No Gas	0.042	ug/l	214.45
Mo	95	115	3	He	0.036	ug/l	61.11
Mo	98	115	1	No Gas	0.040	ug/l	310.15
Ag	107	115	1	No Gas	0.001	ug/l	847.70
Ag	109	115	1	No Gas	0.005	ug/l	888.39
Cd	111	115	1	No Gas	0.011	ug/l	20.37

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	10.67
Cd	114	115	1	No Gas	0.007	ug/l	-28.12
Cd	114	115	3	He	0.005	ug/l	21.98
Sn	118	115	1	No Gas	-0.011	ug/l	2442.05
Sn	118	115	3	He	0.042	ug/l	634.47
Sb	121	115	1	No Gas	0.205	ug/l	2658.86
Sb	121	115	3	He	0.178	ug/l	595.74
Sb	123	115	1	No Gas	0.205	ug/l	2040.36
Sb	123	115	3	He	0.183	ug/l	484.06
Ba	135	115	1	No Gas	0.009	ug/l	33.27
Ba	137	115	1	No Gas	-0.002	ug/l	19.96
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.000	ug/l	10.00
Hg	201	209	1	No Gas	0.012	ug/l	36.99
Hg	202	209	1	No Gas	0.016	ug/l	92.31
Hg	202	209	3	He	0.011	ug/l	31.99
Tl	203	209	3	He	0.145	ug/l	1047.13
Tl	205	209	1	No Gas	0.119	ug/l	4633.06
Tl	205	209	3	He	0.148	ug/l	2564.62
[Pb]	206	209	1	No Gas	-0.121	ug/l	2805.88
[Pb]	207	209	1	No Gas	-0.115	ug/l	2229.09
Pb	208	209	1	No Gas	-0.112	ug/l	10710.65
Th	232	209	3	He	0.094	ug/l	1738.15
U	238	209	1	No Gas	0.004	ug/l	194.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2319611.95	90.7
Sc	45	2	H2	1275954.08	94.1
Sc	45	3	He	141181.94	88.5
Ge	72	1	No Gas	623475.65	93.1
Ge	72	2	H2	433869.72	95.2
Ge	72	3	He	95878.82	94.1
In	115	1	No Gas	4429817.94	97.1
In	115	3	He	1013627.30	95.5
Tb	159	1	No Gas	6508024.99	102.6
Tb	159	3	He	2750679.28	103.8
Ho	165	1	No Gas	6465258.73	103.4
Ho	165	3	He	2780710.22	105.3
Lu	175	1	No Gas	6726900.31	106.1
Lu	175	3	He	2299227.01	103.8
Bi	209	1	No Gas	4759063.67	108.8
Bi	209	3	He	2141898.23	106.7

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 045BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:00:05
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	1.736	ug/l	20019.17
Be	9	45	1	No Gas	-0.103	ug/l	158.30
B	11	45	1	No Gas	1.287	ug/l	2985.50
Na	23	45	3	He	45.122	ug/l	58843.24
Mg	24	45	3	He	10.075	ug/l	5147.34
Al	27	45	1	No Gas	-0.878	ug/l	31805.90
Si	28	45	2	H2	-1.405	ug/l	6238.48
K	39	72	3	He	-51.913	ug/l	96813.86
Ca	40	72	2	H2	0.112	ug/l	108349.98
Ti	47	72	1	No Gas	-0.027	ug/l	220.22
V	51	72	1	No Gas	13.878	ug/l	72562.67
V	51	72	3	He	-2.519	ug/l	37393.00
Cr	52	72	1	No Gas	-2.729	ug/l	77095.19
Cr	52	72	3	He	-0.003	ug/l	876.70
Mn	55	72	1	No Gas	-0.067	ug/l	13662.62
Mn	55	72	3	He	-0.015	ug/l	128.64
Fe	56	72	2	H2	-0.180	ug/l	12227.40
Fe	56	72	3	He	-0.284	ug/l	5771.99
Co	59	72	1	No Gas	-0.013	ug/l	355.97
Ni	60	72	1	No Gas	-0.073	ug/l	439.13
Ni	60	72	3	He	-0.058	ug/l	60.00
Cu	63	72	1	No Gas	-0.033	ug/l	1538.70
Cu	63	72	3	He	-0.009	ug/l	372.93
Cu	65	72	1	No Gas	-0.036	ug/l	460.86
Zn	66	72	1	No Gas	0.007	ug/l	425.19
Zn	66	72	3	He	-0.033	ug/l	94.44
As	75	72	1	No Gas	-3.090	ug/l	13943.17
As	75	72	3	He	-0.171	ug/l	439.20
Se	78	72	2	H2	-0.002	ug/l	36.00
Br	79	72	1	No Gas	0.449	ug/l	7487.13
Br	79	72	2	H2	0.445	ug/l	4039.23
Se	82	72	1	No Gas	-0.344	ug/l	554.61
Kr	84	72	1	No Gas		ug/l	16280.25
Sr	88	72	1	No Gas	0.000	ug/l	246.18
Sr	88	72	3	He	0.009	ug/l	68.89
Mo	95	115	1	No Gas	0.012	ug/l	78.89
Mo	95	115	3	He	0.008	ug/l	18.89
Mo	98	115	1	No Gas	0.009	ug/l	92.36
Ag	107	115	1	No Gas	-0.001	ug/l	823.03
Ag	109	115	1	No Gas	-0.003	ug/l	795.01
Cd	111	115	1	No Gas	1.118	ug/l	2714.36

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	8.22
Cd	114	115	1	No Gas	0.010	ug/l	-12.75
Cd	114	115	3	He	0.004	ug/l	20.33
Sn	118	115	1	No Gas	-0.075	ug/l	1942.95
Sn	118	115	3	He	-0.022	ug/l	514.46
Sb	121	115	1	No Gas	0.093	ug/l	1266.18
Sb	121	115	3	He	0.103	ug/l	363.04
Sb	123	115	1	No Gas	0.098	ug/l	1018.81
Sb	123	115	3	He	0.093	ug/l	259.36
Ba	135	115	1	No Gas	0.006	ug/l	26.61
Ba	137	115	1	No Gas	0.004	ug/l	43.25
La	139	115	3	He	-0.001	ug/l	7.78
Ce	140	115	3	He	0.000	ug/l	12.22
Hg	201	209	1	No Gas	0.005	ug/l	22.33
Hg	202	209	1	No Gas	0.008	ug/l	54.99
Hg	202	209	3	He	0.009	ug/l	26.33
Tl	203	209	3	He	0.053	ug/l	612.26
Tl	205	209	1	No Gas	0.028	ug/l	2260.21
Tl	205	209	3	He	0.051	ug/l	1421.32
[Pb]	206	209	1	No Gas	-0.136	ug/l	2600.27
[Pb]	207	209	1	No Gas	-0.113	ug/l	2193.53
Pb	208	209	1	No Gas	-0.115	ug/l	10304.99
Th	232	209	3	He	0.036	ug/l	763.00
U	238	209	1	No Gas	0.001	ug/l	80.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2269849.58	88.7
Sc	45	2	H2	1273089.67	93.9
Sc	45	3	He	139766.67	87.6
Ge	72	1	No Gas	609101.79	90.9
Ge	72	2	H2	423847.80	93.0
Ge	72	3	He	93589.86	91.9
In	115	1	No Gas	4388311.19	96.2
In	115	3	He	1021091.23	96.2
Tb	159	1	No Gas	6404918.18	101.0
Tb	159	3	He	2742696.69	103.5
Ho	165	1	No Gas	6254274.00	100.0
Ho	165	3	He	2754346.52	104.3
Lu	175	1	No Gas	6575201.58	103.7
Lu	175	3	He	2302610.73	104.0
Bi	209	1	No Gas	4638574.16	106.1
Bi	209	3	He	2176443.05	108.5

ICPMS207-B Analytical Data

Sample Name B22011446-001B
File Name 046SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:06:19
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	4.179	ug/l	28913.02
Be	9	45	1	No Gas	-0.089	ug/l	169.97
B	11	45	1	No Gas	37.478	ug/l	45952.06
Na	23	45	3	He	31826.222	ug/l	11651718.44
Mg	24	45	3	He	9551.082	ug/l	1969841.34
Al	27	45	1	No Gas	15.616	ug/l	178008.79
Si	28	45	2	H2	22012.647	ug/l	23019646.16
K	39	72	3	He	2929.636	ug/l	730013.04
Ca	40	72	2	H2	9989.632	ug/l	39269288.32
Ti	47	72	1	No Gas	2.563	ug/l	2613.26
V	51	72	1	No Gas	15.883	ug/l	84015.15
V	51	72	3	He	23.738	ug/l	81058.92
Cr	52	72	1	No Gas	3.561	ug/l	134293.98
Cr	52	72	3	He	2.527	ug/l	5876.78
Mn	55	72	1	No Gas	1.739	ug/l	36973.06
Mn	55	72	3	He	0.571	ug/l	890.19
Fe	56	72	2	H2	22.304	ug/l	176376.41
Fe	56	72	3	He	22.111	ug/l	45084.45
Co	59	72	1	No Gas	0.120	ug/l	1843.14
Ni	60	72	1	No Gas	0.681	ug/l	2229.08
Ni	60	72	3	He	0.702	ug/l	635.57
Cu	63	72	1	No Gas	0.966	ug/l	7486.93
Cu	63	72	3	He	0.910	ug/l	2142.06
Cu	65	72	1	No Gas	0.883	ug/l	2996.85
Zn	66	72	1	No Gas	20.026	ug/l	39755.59
Zn	66	72	3	He	20.326	ug/l	9270.79
As	75	72	1	No Gas	1.421	ug/l	24127.25
As	75	72	3	He	0.466	ug/l	677.87
Se	78	72	2	H2	0.199	ug/l	90.78
Br	79	72	1	No Gas	3.936	ug/l	26098.50
Br	79	72	2	H2	3.543	ug/l	14625.09
Se	82	72	1	No Gas	0.352	ug/l	610.88
Kr	84	72	1	No Gas		ug/l	23649.12
Sr	88	72	1	No Gas	73.984	ug/l	1298499.74
Sr	88	72	3	He	75.603	ug/l	155530.22
Mo	95	115	1	No Gas	0.183	ug/l	721.14
Mo	95	115	3	He	0.213	ug/l	290.01
Mo	98	115	1	No Gas	0.185	ug/l	1164.01
Ag	107	115	1	No Gas	-0.052	ug/l	196.08
Ag	109	115	1	No Gas	-0.053	ug/l	208.75
Cd	111	115	1	No Gas	0.017	ug/l	30.28

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	6.67
Cd	114	115	1	No Gas	0.014	ug/l	8.55
Cd	114	115	3	He	-0.005	ug/l	2.65
Sn	118	115	1	No Gas	1.439	ug/l	11605.22
Sn	118	115	3	He	1.791	ug/l	3572.70
Sb	121	115	1	No Gas	0.313	ug/l	3445.11
Sb	121	115	3	He	0.317	ug/l	926.13
Sb	123	115	1	No Gas	0.313	ug/l	2647.52
Sb	123	115	3	He	0.322	ug/l	743.43
Ba	135	115	1	No Gas	4.741	ug/l	9564.34
Ba	137	115	1	No Gas	4.786	ug/l	16610.37
La	139	115	3	He	0.008	ug/l	91.11
Ce	140	115	3	He	0.017	ug/l	190.00
Hg	201	209	1	No Gas	0.015	ug/l	35.99
Hg	202	209	1	No Gas	0.030	ug/l	128.31
Hg	202	209	3	He	0.022	ug/l	49.32
Tl	203	209	3	He	0.130	ug/l	903.73
Tl	205	209	1	No Gas	0.112	ug/l	3750.55
Tl	205	209	3	He	0.119	ug/l	2056.99
[Pb]	206	209	1	No Gas	0.096	ug/l	4018.41
[Pb]	207	209	1	No Gas	0.094	ug/l	3259.31
Pb	208	209	1	No Gas	0.098	ug/l	15399.14
Th	232	209	3	He	0.193	ug/l	3163.66
U	238	209	1	No Gas	0.025	ug/l	774.54

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1999675.94	78.1
Sc	45	2	H2	1121218.24	82.7
Sc	45	3	He	121124.02	75.9
Ge	72	1	No Gas	554366.90	82.8
Ge	72	2	H2	397791.69	87.3
Ge	72	3	He	82920.13	81.4
In	115	1	No Gas	3825334.70	83.8
In	115	3	He	906476.21	85.4
Tb	159	1	No Gas	5710745.44	90.0
Tb	159	3	He	2547340.69	96.1
Ho	165	1	No Gas	5622366.02	89.9
Ho	165	3	He	2536721.01	96.1
Lu	175	1	No Gas	5878441.78	92.7
Lu	175	3	He	2103704.05	95.0
Bi	209	1	No Gas	4026603.74	92.1
Bi	209	3	He	1983906.83	98.9

ICPMS207-B Analytical Data

Sample Name B22011446-001BDIL
File Name 047SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:12:32
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	6.550	ug/l	16902.17
Be	9	45	1	No Gas	-0.567	ug/l	126.64
B	11	45	1	No Gas	39.352	ug/l	11342.83
Na	23	45	3	He	31496.200	ug/l	2520773.38
Mg	24	45	3	He	9117.634	ug/l	408305.14
Al	27	45	1	No Gas	9.053	ug/l	56627.80
Si	28	45	2	H2	21405.432	ug/l	4944642.91
K	39	72	3	He	2523.549	ug/l	223083.02
Ca	40	72	2	H2	10312.919	ug/l	8733072.87
Ti	47	72	1	No Gas	2.005	ug/l	637.32
V	51	72	1	No Gas	12.149	ug/l	-69856.25
V	51	72	3	He	-2.632	ug/l	39820.56
Cr	52	72	1	No Gas	-12.039	ug/l	77892.46
Cr	52	72	3	He	2.376	ug/l	1885.69
Mn	55	72	1	No Gas	1.523	ug/l	18551.60
Mn	55	72	3	He	0.573	ug/l	308.94
Fe	56	72	2	H2	21.849	ug/l	47835.53
Fe	56	72	3	He	19.918	ug/l	13785.38
Co	59	72	1	No Gas	0.112	ug/l	768.50
Ni	60	72	1	No Gas	0.204	ug/l	718.59
Ni	60	72	3	He	0.508	ug/l	190.00
Cu	63	72	1	No Gas	1.448	ug/l	3572.55
Cu	63	72	3	He	1.619	ug/l	1067.83
Cu	65	72	1	No Gas	1.615	ug/l	1510.68
Zn	66	72	1	No Gas	23.550	ug/l	10216.56
Zn	66	72	3	He	21.769	ug/l	2233.52
As	75	72	1	No Gas	-12.829	ug/l	14909.75
As	75	72	3	He	-1.031	ug/l	403.87
Se	78	72	2	H2	0.093	ug/l	42.33
Br	79	72	1	No Gas	265.535	ug/l	316090.24
Br	79	72	2	H2	253.146	ug/l	191186.92
Se	82	72	1	No Gas	4.981	ug/l	748.08
Kr	84	72	1	No Gas		ug/l	17512.58
Sr	88	72	1	No Gas	76.046	ug/l	283380.87
Sr	88	72	3	He	75.330	ug/l	33589.21
Mo	95	115	1	No Gas	0.233	ug/l	224.45
Mo	95	115	3	He	0.249	ug/l	78.89
Mo	98	115	1	No Gas	0.193	ug/l	291.05
Ag	107	115	1	No Gas	-0.313	ug/l	104.71
Ag	109	115	1	No Gas	-0.326	ug/l	102.71
Cd	111	115	1	No Gas	0.043	ug/l	13.28

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.019	ug/l	7.56
Cd	114	115	1	No Gas	0.087	ug/l	28.21
Cd	114	115	3	He	0.009	ug/l	15.19
Sn	118	115	1	No Gas	1.783	ug/l	5024.30
Sn	118	115	3	He	2.265	ug/l	1375.63
Sb	121	115	1	No Gas	0.394	ug/l	1055.15
Sb	121	115	3	He	0.384	ug/l	266.70
Sb	123	115	1	No Gas	0.399	ug/l	820.77
Sb	123	115	3	He	0.482	ug/l	257.70
Ba	135	115	1	No Gas	4.976	ug/l	2245.73
Ba	137	115	1	No Gas	4.798	ug/l	3729.79
La	139	115	3	He	0.007	ug/l	27.78
Ce	140	115	3	He	0.022	ug/l	58.89
Hg	201	209	1	No Gas	0.028	ug/l	23.00
Hg	202	209	1	No Gas	0.055	ug/l	65.32
Hg	202	209	3	He	0.053	ug/l	30.66
Tl	203	209	3	He	0.226	ug/l	574.24
Tl	205	209	1	No Gas	0.208	ug/l	2548.04
Tl	205	209	3	He	0.232	ug/l	1365.96
[Pb]	206	209	1	No Gas	-0.173	ug/l	3432.69
[Pb]	207	209	1	No Gas	-0.083	ug/l	2871.44
Pb	208	209	1	No Gas	-0.052	ug/l	13728.45
Th	232	209	3	He	0.127	ug/l	578.91
U	238	209	1	No Gas	0.021	ug/l	176.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2159320.89	84.4
Sc	45	2	H2	1236746.38	91.2
Sc	45	3	He	130842.37	82.0
Ge	72	1	No Gas	588126.79	87.8
Ge	72	2	H2	424270.61	93.1
Ge	72	3	He	89788.33	88.1
In	115	1	No Gas	4260536.25	93.4
In	115	3	He	979027.51	92.2
Tb	159	1	No Gas	6243577.26	98.4
Tb	159	3	He	2652120.31	100.0
Ho	165	1	No Gas	6144818.19	98.3
Ho	165	3	He	2677894.75	101.4
Lu	175	1	No Gas	6336326.10	99.9
Lu	175	3	He	2272722.93	102.7
Bi	209	1	No Gas	4566981.28	104.5
Bi	209	3	He	2173032.16	108.3

ICPMS207-B Analytical Data

Sample Name B22011446-001BPDS1
File Name 048ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:18:46
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	1460.715	ug/l	6087255.72
Be	9	45	1	No Gas	34.218	ug/l	66838.99
B	11	45	1	No Gas	74.025	ug/l	80779.51
Na	23	45	3	He	78523.503	ug/l	26885676.54
Mg	24	45	3	He	57670.402	ug/l	11131198.83
Al	27	45	1	No Gas	56.992	ug/l	500301.60
Si	28	45	2	H2	21344.424	ug/l	21386093.61
K	39	72	3	He	46971.597	ug/l	10041570.54
Ca	40	72	2	H2	54129.804	ug/l	207677443.46
Ti	47	72	1	No Gas	49.477	ug/l	45733.54
V	51	72	1	No Gas	64.724	ug/l	640713.11
V	51	72	3	He	66.433	ug/l	156826.35
Cr	52	72	1	No Gas	49.691	ug/l	599735.27
Cr	52	72	3	He	51.168	ug/l	101853.07
Mn	55	72	1	No Gas	48.825	ug/l	668077.28
Mn	55	72	3	He	49.891	ug/l	64888.59
Fe	56	72	2	H2	4969.901	ug/l	35666510.25
Fe	56	72	3	He	5056.518	ug/l	8852184.79
Co	59	72	1	No Gas	44.409	ug/l	498265.00
Ni	60	72	1	No Gas	46.927	ug/l	113102.23
Ni	60	72	3	He	51.081	ug/l	38426.07
Cu	63	72	1	No Gas	46.826	ug/l	282821.78
Cu	63	72	3	He	52.755	ug/l	102326.15
Cu	65	72	1	No Gas	48.601	ug/l	134722.82
Zn	66	72	1	No Gas	68.611	ug/l	133249.32
Zn	66	72	3	He	72.078	ug/l	31968.58
As	75	72	1	No Gas	51.239	ug/l	151059.57
As	75	72	3	He	51.285	ug/l	23228.71
Se	78	72	2	H2	50.388	ug/l	13952.79
Br	79	72	1	No Gas	5.928	ug/l	36717.18
Br	79	72	2	H2	5.368	ug/l	20613.84
Se	82	72	1	No Gas	50.137	ug/l	7950.74
Kr	84	72	1	No Gas		ug/l	28191.73
Sr	88	72	1	No Gas	123.672	ug/l	2138289.57
Sr	88	72	3	He	127.719	ug/l	257416.57
Mo	95	115	1	No Gas	45.348	ug/l	165420.87
Mo	95	115	3	He	51.580	ug/l	66062.20
Mo	98	115	1	No Gas	46.610	ug/l	276958.68
Ag	107	115	1	No Gas	19.079	ug/l	185253.44
Ag	109	115	1	No Gas	19.302	ug/l	179505.92
Cd	111	115	1	No Gas	50.174	ug/l	101941.97

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.893	ug/l	36197.45
Cd	114	115	1	No Gas	48.444	ug/l	230319.08
Cd	114	115	3	He	54.993	ug/l	89496.40
Sn	118	115	1	No Gas	50.207	ug/l	317999.81
Sn	118	115	3	He	54.696	ug/l	90780.74
Sb	121	115	1	No Gas	49.221	ug/l	503949.32
Sb	121	115	3	He	52.362	ug/l	142609.93
Sb	123	115	1	No Gas	49.271	ug/l	388240.17
Sb	123	115	3	He	52.556	ug/l	112854.47
Ba	135	115	1	No Gas	55.614	ug/l	107679.78
Ba	137	115	1	No Gas	56.278	ug/l	187340.11
La	139	115	3	He	0.011	ug/l	118.89
Ce	140	115	3	He	53.277	ug/l	547492.62
Hg	201	209	1	No Gas	0.962	ug/l	1512.45
Hg	202	209	1	No Gas	1.005	ug/l	3544.77
Hg	202	209	3	He	1.022	ug/l	1838.10
Tl	203	209	3	He	49.981	ug/l	211474.39
Tl	205	209	1	No Gas	50.645	ug/l	1018927.51
Tl	205	209	3	He	48.673	ug/l	512312.34
[Pb]	206	209	1	No Gas	49.143	ug/l	353094.09
[Pb]	207	209	1	No Gas	49.449	ug/l	307843.63
Pb	208	209	1	No Gas	49.493	ug/l	1412839.93
Th	232	209	3	He	49.520	ug/l	738437.86
U	238	209	1	No Gas	52.284	ug/l	1475591.59

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1860643.51	72.7
Sc	45	2	H2	1106528.87	81.6
Sc	45	3	He	116881.50	73.3
Ge	72	1	No Gas	563985.54	84.2
Ge	72	2	H2	400810.78	88.0
Ge	72	3	He	83698.80	82.2
In	115	1	No Gas	3796390.08	83.2
In	115	3	He	896948.64	84.5
Tb	159	1	No Gas	5766358.29	90.9
Tb	159	3	He	2548618.03	96.1
Ho	165	1	No Gas	5682765.22	90.9
Ho	165	3	He	2559781.54	96.9
Lu	175	1	No Gas	5889601.63	92.9
Lu	175	3	He	2157678.49	97.5
Bi	209	1	No Gas	3904641.91	89.3
Bi	209	3	He	1937183.70	96.5

ICPMS207-B Analytical Data

Sample Name B22011446-001BMS4
File Name 049MS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:25:02
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	62.171	ug/l	291399.53
Be	9	45	1	No Gas	33.583	ug/l	71461.81
B	11	45	1	No Gas	109.952	ug/l	130315.73
Na	23	45	3	He	34892.684	ug/l	13066951.89
Mg	24	45	3	He	13825.214	ug/l	2916630.67
Al	27	45	1	No Gas	446.087	ug/l	4018414.87
Si	28	45	2	H2	22530.425	ug/l	24526734.46
K	39	72	3	He	7091.672	ug/l	1731459.91
Ca	40	72	2	H2	14223.901	ug/l	58931648.32
Ti	47	72	1	No Gas	88.755	ug/l	87115.05
V	51	72	1	No Gas	110.516	ug/l	1244145.87
V	51	72	3	He	114.937	ug/l	262970.52
Cr	52	72	1	No Gas	94.346	ug/l	1112662.54
Cr	52	72	3	He	99.754	ug/l	214529.00
Mn	55	72	1	No Gas	494.069	ug/l	7059968.32
Mn	55	72	3	He	504.475	ug/l	710213.77
Fe	56	72	2	H2	520.487	ug/l	4040700.40
Fe	56	72	3	He	520.498	ug/l	993274.99
Co	59	72	1	No Gas	92.203	ug/l	1100051.12
Ni	60	72	1	No Gas	96.920	ug/l	247754.62
Ni	60	72	3	He	101.685	ug/l	82860.69
Cu	63	72	1	No Gas	98.120	ug/l	628847.30
Cu	63	72	3	He	108.773	ug/l	228408.36
Cu	65	72	1	No Gas	100.963	ug/l	297267.85
Zn	66	72	1	No Gas	121.947	ug/l	251936.28
Zn	66	72	3	He	124.394	ug/l	59764.70
As	75	72	1	No Gas	104.929	ug/l	305148.13
As	75	72	3	He	102.675	ug/l	49905.71
Se	78	72	2	H2	103.763	ug/l	30946.25
Br	79	72	1	No Gas	3.604	ug/l	25425.18
Br	79	72	2	H2	3.338	ug/l	14668.42
Se	82	72	1	No Gas	105.268	ug/l	17108.00
Kr	84	72	1	No Gas		ug/l	36517.15
Sr	88	72	1	No Gas	184.476	ug/l	3396768.92
Sr	88	72	3	He	186.544	ug/l	407680.85
Mo	95	115	1	No Gas	93.856	ug/l	366711.02
Mo	95	115	3	He	99.365	ug/l	141881.66
Mo	98	115	1	No Gas	93.618	ug/l	595526.35
Ag	107	115	1	No Gas	9.347	ug/l	97593.55
Ag	109	115	1	No Gas	9.385	ug/l	93852.64
Cd	111	115	1	No Gas	51.798	ug/l	112759.38

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.439	ug/l	40008.28
Cd	114	115	1	No Gas	50.010	ug/l	254729.54
Cd	114	115	3	He	54.459	ug/l	98806.82
Sn	118	115	1	No Gas	100.803	ug/l	681803.25
Sn	118	115	3	He	106.741	ug/l	196947.37
Sb	121	115	1	No Gas	102.663	ug/l	1126330.06
Sb	121	115	3	He	104.403	ug/l	316962.06
Sb	123	115	1	No Gas	104.389	ug/l	881334.31
Sb	123	115	3	He	106.634	ug/l	255241.84
Ba	135	115	1	No Gas	104.384	ug/l	216537.23
Ba	137	115	1	No Gas	103.662	ug/l	369857.07
La	139	115	3	He	106.809	ug/l	1121400.57
Ce	140	115	3	He	107.122	ug/l	1227212.97
Hg	201	209	1	No Gas	0.028	ug/l	58.99
Hg	202	209	1	No Gas	0.034	ug/l	146.30
Hg	202	209	3	He	0.029	ug/l	63.32
Tl	203	209	3	He	100.788	ug/l	459287.74
Tl	205	209	1	No Gas	99.954	ug/l	2200801.34
Tl	205	209	3	He	97.342	ug/l	1103673.43
[Pb]	206	209	1	No Gas	98.032	ug/l	768297.72
[Pb]	207	209	1	No Gas	99.522	ug/l	675444.08
Pb	208	209	1	No Gas	101.066	ug/l	3145932.10
Th	232	209	3	He	102.944	ug/l	1654553.20
U	238	209	1	No Gas	103.720	ug/l	3205974.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1965502.50	76.8
Sc	45	2	H2	1167150.53	86.1
Sc	45	3	He	123946.19	77.7
Ge	72	1	No Gas	581295.01	86.8
Ge	72	2	H2	419666.38	92.1
Ge	72	3	He	88109.52	86.5
In	115	1	No Gas	3940629.43	86.4
In	115	3	He	970868.51	91.4
Tb	159	1	No Gas	5964112.34	94.0
Tb	159	3	He	2644360.41	99.7
Ho	165	1	No Gas	5823715.80	93.1
Ho	165	3	He	2610819.74	98.9
Lu	175	1	No Gas	5955603.36	93.9
Lu	175	3	He	2189629.32	98.9
Bi	209	1	No Gas	4140924.05	94.7
Bi	209	3	He	2027418.27	101.0

ICPMS207-B Analytical Data

Sample Name B22011446-001BMSD4
File Name 050MSD4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:31:15
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	57.770	ug/l	264034.92
Be	9	45	1	No Gas	32.937	ug/l	68176.60
B	11	45	1	No Gas	109.261	ug/l	125935.91
Na	23	45	3	He	35068.880	ug/l	12930583.14
Mg	24	45	3	He	14006.433	ug/l	2908927.30
Al	27	45	1	No Gas	437.338	ug/l	3830797.48
Si	28	45	2	H2	22081.173	ug/l	23967380.07
K	39	72	3	He	7107.222	ug/l	1712296.55
Ca	40	72	2	H2	13974.075	ug/l	58312888.75
Ti	47	72	1	No Gas	90.455	ug/l	85912.33
V	51	72	1	No Gas	114.249	ug/l	1248494.35
V	51	72	3	He	113.061	ug/l	255945.16
Cr	52	72	1	No Gas	94.354	ug/l	1075887.87
Cr	52	72	3	He	100.943	ug/l	214232.26
Mn	55	72	1	No Gas	503.680	ug/l	6962216.63
Mn	55	72	3	He	503.603	ug/l	699757.51
Fe	56	72	2	H2	523.476	ug/l	4092000.92
Fe	56	72	3	He	520.092	ug/l	979495.94
Co	59	72	1	No Gas	94.623	ug/l	1091814.59
Ni	60	72	1	No Gas	98.279	ug/l	242864.60
Ni	60	72	3	He	103.797	ug/l	83471.77
Cu	63	72	1	No Gas	99.934	ug/l	619106.09
Cu	63	72	3	He	108.960	ug/l	225806.04
Cu	65	72	1	No Gas	102.728	ug/l	292462.39
Zn	66	72	1	No Gas	129.549	ug/l	258736.09
Zn	66	72	3	He	126.430	ug/l	59940.62
As	75	72	1	No Gas	108.796	ug/l	305365.97
As	75	72	3	He	102.872	ug/l	49349.30
Se	78	72	2	H2	102.690	ug/l	30845.16
Br	79	72	1	No Gas	3.805	ug/l	25721.96
Br	79	72	2	H2	3.628	ug/l	15850.59
Se	82	72	1	No Gas	107.161	ug/l	16818.94
Kr	84	72	1	No Gas		ug/l	35223.16
Sr	88	72	1	No Gas	184.903	ug/l	3291223.08
Sr	88	72	3	He	185.268	ug/l	399639.90
Mo	95	115	1	No Gas	95.636	ug/l	366077.79
Mo	95	115	3	He	101.824	ug/l	142404.40
Mo	98	115	1	No Gas	96.476	ug/l	601554.04
Ag	107	115	1	No Gas	9.700	ug/l	99237.54
Ag	109	115	1	No Gas	9.584	ug/l	93905.38
Cd	111	115	1	No Gas	53.243	ug/l	113580.55

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.693	ug/l	40124.04
Cd	114	115	1	No Gas	50.825	ug/l	253683.85
Cd	114	115	3	He	55.198	ug/l	98092.95
Sn	118	115	1	No Gas	101.556	ug/l	673027.39
Sn	118	115	3	He	110.649	ug/l	199968.52
Sb	121	115	1	No Gas	104.858	ug/l	1127493.59
Sb	121	115	3	He	106.076	ug/l	315433.67
Sb	123	115	1	No Gas	106.648	ug/l	882488.02
Sb	123	115	3	He	109.550	ug/l	256846.57
Ba	135	115	1	No Gas	101.264	ug/l	205972.11
Ba	137	115	1	No Gas	103.922	ug/l	363385.43
La	139	115	3	He	108.170	ug/l	1112432.93
Ce	140	115	3	He	107.722	ug/l	1208820.77
Hg	201	209	1	No Gas	0.017	ug/l	38.66
Hg	202	209	1	No Gas	0.028	ug/l	121.98
Hg	202	209	3	He	0.024	ug/l	53.66
Tl	203	209	3	He	102.178	ug/l	466259.41
Tl	205	209	1	No Gas	105.266	ug/l	2236102.62
Tl	205	209	3	He	98.427	ug/l	1117437.44
[Pb]	206	209	1	No Gas	101.302	ug/l	765792.58
[Pb]	207	209	1	No Gas	101.888	ug/l	666946.96
Pb	208	209	1	No Gas	103.051	ug/l	3094397.39
Th	232	209	3	He	102.333	ug/l	1646889.72
U	238	209	1	No Gas	107.071	ug/l	3192431.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1909779.61	74.6
Sc	45	2	H2	1163786.47	85.8
Sc	45	3	He	122025.70	76.5
Ge	72	1	No Gas	562427.84	84.0
Ge	72	2	H2	422548.04	92.8
Ge	72	3	He	86960.08	85.4
In	115	1	No Gas	3860072.79	84.6
In	115	3	He	950939.51	89.6
Tb	159	1	No Gas	5855313.75	92.3
Tb	159	3	He	2633899.30	99.4
Ho	165	1	No Gas	5912056.95	94.5
Ho	165	3	He	2624843.97	99.4
Lu	175	1	No Gas	5941666.40	93.7
Lu	175	3	He	2191802.12	99.0
Bi	209	1	No Gas	3991320.76	91.3
Bi	209	3	He	2030189.02	101.2

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 051BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:37:29
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	0.833	ug/l	14611.54
Be	9	45	1	No Gas	-0.113	ug/l	127.98
B	11	45	1	No Gas	1.707	ug/l	3399.09
Na	23	45	3	He	61.760	ug/l	62877.22
Mg	24	45	3	He	16.225	ug/l	6312.16
Al	27	45	1	No Gas	-0.921	ug/l	29994.50
Si	28	45	2	H2	3.515	ug/l	12216.55
K	39	72	3	He	-108.360	ug/l	82547.72
Ca	40	72	2	H2	-2.389	ug/l	103070.89
Ti	47	72	1	No Gas	-0.034	ug/l	213.55
V	51	72	1	No Gas	8.393	ug/l	2846.52
V	51	72	3	He	-8.948	ug/l	24007.50
Cr	52	72	1	No Gas	-4.544	ug/l	56767.46
Cr	52	72	3	He	-0.038	ug/l	792.25
Mn	55	72	1	No Gas	-0.261	ug/l	10762.65
Mn	55	72	3	He	-0.011	ug/l	133.31
Fe	56	72	2	H2	-0.480	ug/l	10409.20
Fe	56	72	3	He	-0.854	ug/l	4597.02
Co	59	72	1	No Gas	-0.004	ug/l	465.75
Ni	60	72	1	No Gas	-0.086	ug/l	405.87
Ni	60	72	3	He	-0.025	ug/l	87.78
Cu	63	72	1	No Gas	-0.059	ug/l	1366.61
Cu	63	72	3	He	0.008	ug/l	408.26
Cu	65	72	1	No Gas	0.001	ug/l	574.24
Zn	66	72	1	No Gas	0.070	ug/l	559.93
Zn	66	72	3	He	0.043	ug/l	132.22
As	75	72	1	No Gas	-2.589	ug/l	15348.81
As	75	72	3	He	-0.403	ug/l	318.40
Se	78	72	2	H2	-0.009	ug/l	35.66
Br	79	72	1	No Gas	0.633	ug/l	8605.55
Br	79	72	2	H2	0.508	ug/l	4505.12
Se	82	72	1	No Gas	-0.812	ug/l	478.35
Kr	84	72	1	No Gas		ug/l	15387.74
Sr	88	72	1	No Gas	0.002	ug/l	282.78
Sr	88	72	3	He	0.008	ug/l	66.67
Mo	95	115	1	No Gas	0.018	ug/l	107.78
Mo	95	115	3	He	0.016	ug/l	31.11
Mo	98	115	1	No Gas	0.016	ug/l	139.52
Ag	107	115	1	No Gas	0.000	ug/l	838.36
Ag	109	115	1	No Gas	-0.004	ug/l	782.34
Cd	111	115	1	No Gas	0.014	ug/l	26.32

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.012	ug/l	14.22
Cd	114	115	1	No Gas	0.012	ug/l	-0.20
Cd	114	115	3	He	0.009	ug/l	30.67
Sn	118	115	1	No Gas	0.014	ug/l	2621.74
Sn	118	115	3	He	0.040	ug/l	637.80
Sb	121	115	1	No Gas	0.165	ug/l	2159.38
Sb	121	115	3	He	0.142	ug/l	487.39
Sb	123	115	1	No Gas	0.167	ug/l	1676.94
Sb	123	115	3	He	0.137	ug/l	372.37
Ba	135	115	1	No Gas	0.012	ug/l	39.92
Ba	137	115	1	No Gas	0.003	ug/l	39.92
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.002	ug/l	28.89
Hg	201	209	1	No Gas	0.002	ug/l	17.00
Hg	202	209	1	No Gas	0.009	ug/l	60.32
Hg	202	209	3	He	0.007	ug/l	23.00
Tl	203	209	3	He	0.186	ug/l	1292.58
Tl	205	209	1	No Gas	0.170	ug/l	5859.12
Tl	205	209	3	He	0.171	ug/l	2953.52
[Pb]	206	209	1	No Gas	-0.076	ug/l	3182.63
[Pb]	207	209	1	No Gas	-0.070	ug/l	2563.60
Pb	208	209	1	No Gas	-0.070	ug/l	12094.46
Th	232	209	3	He	0.110	ug/l	2083.67
U	238	209	1	No Gas	0.003	ug/l	155.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2170776.39	84.8
Sc	45	2	H2	1287665.89	95.0
Sc	45	3	He	133454.60	83.6
Ge	72	1	No Gas	609226.36	90.9
Ge	72	2	H2	446448.05	98.0
Ge	72	3	He	93009.46	91.3
In	115	1	No Gas	4415161.61	96.8
In	115	3	He	1025308.75	96.6
Tb	159	1	No Gas	6548677.51	103.2
Tb	159	3	He	2870874.00	108.3
Ho	165	1	No Gas	6415331.35	102.6
Ho	165	3	He	2864502.66	108.5
Lu	175	1	No Gas	6667427.14	105.1
Lu	175	3	He	2343892.35	105.9
Bi	209	1	No Gas	4727538.72	108.1
Bi	209	3	He	2228864.50	111.1

ICPMS207-B Analytical Data

Sample Name B22011446-006A
File Name 052SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:43:43
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	-0.519	ug/l	9624.25
Be	9	45	1	No Gas	-0.123	ug/l	129.98
B	11	45	1	No Gas	56.299	ug/l	91361.30
Na	23	45	3	He	42680.082	ug/l	20755505.25
Mg	24	45	3	He	14053.281	ug/l	3851504.33
Al	27	45	1	No Gas	-1.564	ug/l	29061.50
Si	28	45	2	H2	7473.585	ug/l	10094318.83
K	39	72	3	He	3425.973	ug/l	1074471.23
Ca	40	72	2	H2	14292.871	ug/l	67255638.27
Ti	47	72	1	No Gas	0.415	ug/l	747.44
V	51	72	1	No Gas	8.394	ug/l	2775.59
V	51	72	3	He	-16.533	ug/l	9706.57
Cr	52	72	1	No Gas	-6.362	ug/l	40308.49
Cr	52	72	3	He	-0.017	ug/l	961.15
Mn	55	72	1	No Gas	16.900	ug/l	296079.22
Mn	55	72	3	He	16.915	ug/l	28925.53
Fe	56	72	2	H2	12.972	ug/l	129280.53
Fe	56	72	3	He	12.938	ug/l	36846.91
Co	59	72	1	No Gas	0.009	ug/l	691.98
Ni	60	72	1	No Gas	0.288	ug/l	1557.00
Ni	60	72	3	He	0.231	ug/l	352.23
Cu	63	72	1	No Gas	0.168	ug/l	3196.97
Cu	63	72	3	He	0.113	ug/l	731.87
Cu	65	72	1	No Gas	0.158	ug/l	1173.19
Zn	66	72	1	No Gas	1.160	ug/l	3232.48
Zn	66	72	3	He	0.936	ug/l	668.91
As	75	72	1	No Gas	-4.818	ug/l	10040.27
As	75	72	3	He	-0.650	ug/l	220.73
Se	78	72	2	H2	0.032	ug/l	52.22
Br	79	72	1	No Gas	18.496	ug/l	129854.69
Br	79	72	2	H2	15.983	ug/l	69628.66
Se	82	72	1	No Gas	-0.413	ug/l	602.75
Kr	84	72	1	No Gas		ug/l	29221.71
Sr	88	72	1	No Gas	98.323	ug/l	2101703.70
Sr	88	72	3	He	90.941	ug/l	240054.63
Mo	95	115	1	No Gas	14.208	ug/l	67372.84
Mo	95	115	3	He	15.770	ug/l	25431.56
Mo	98	115	1	No Gas	14.158	ug/l	109305.95
Ag	107	115	1	No Gas	-0.063	ug/l	108.71
Ag	109	115	1	No Gas	-0.067	ug/l	95.37
Cd	111	115	1	No Gas	0.032	ug/l	77.68

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.036	ug/l	36.56
Cd	114	115	1	No Gas	0.044	ug/l	193.32
Cd	114	115	3	He	0.031	ug/l	77.37
Sn	118	115	1	No Gas	-0.212	ug/l	991.41
Sn	118	115	3	He	-0.190	ug/l	204.45
Sb	121	115	1	No Gas	0.079	ug/l	1181.84
Sb	121	115	3	He	0.078	ug/l	304.37
Sb	123	115	1	No Gas	0.082	ug/l	938.79
Sb	123	115	3	He	0.080	ug/l	243.36
Ba	135	115	1	No Gas	2.167	ug/l	5473.58
Ba	137	115	1	No Gas	2.111	ug/l	9171.56
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.001	ug/l	15.56
Hg	201	209	1	No Gas	0.003	ug/l	19.00
Hg	202	209	1	No Gas	0.016	ug/l	92.98
Hg	202	209	3	He	0.013	ug/l	35.99
Tl	203	209	3	He	0.071	ug/l	693.63
Tl	205	209	1	No Gas	0.062	ug/l	3222.64
Tl	205	209	3	He	0.080	ug/l	1758.83
[Pb]	206	209	1	No Gas	-0.139	ug/l	2682.51
[Pb]	207	209	1	No Gas	-0.126	ug/l	2176.86
Pb	208	209	1	No Gas	-0.131	ug/l	10196.04
Th	232	209	3	He	0.024	ug/l	555.57
U	238	209	1	No Gas	0.009	ug/l	368.27

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2667896.28	104.3
Sc	45	2	H2	1447230.23	106.7
Sc	45	3	He	161015.64	100.9
Ge	72	1	No Gas	675027.68	100.8
Ge	72	2	H2	476536.88	104.6
Ge	72	3	He	106410.24	104.5
In	115	1	No Gas	4779926.25	104.8
In	115	3	He	1096194.92	103.2
Tb	159	1	No Gas	7031731.90	110.8
Tb	159	3	He	2944725.90	111.1
Ho	165	1	No Gas	7011154.24	112.1
Ho	165	3	He	2912560.50	110.3
Lu	175	1	No Gas	7109430.48	112.1
Lu	175	3	He	2436862.85	110.1
Bi	209	1	No Gas	4841008.54	110.7
Bi	209	3	He	2150805.15	107.2

ICPMS207-B Analytical Data

Sample Name B22011446-006B
File Name 053SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:49:57
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	1.497	ug/l	15958.76
Be	9	45	1	No Gas	-0.080	ug/l	182.97
B	11	45	1	No Gas	60.554	ug/l	71074.28
Na	23	45	3	He	44271.044	ug/l	15860311.99
Mg	24	45	3	He	14105.134	ug/l	2848261.65
Al	27	45	1	No Gas	1.073	ug/l	44186.26
Si	28	45	2	H2	9847.385	ug/l	8043935.22
K	39	72	3	He	3328.364	ug/l	813978.95
Ca	40	72	2	H2	15706.947	ug/l	51348782.39
Ti	47	72	1	No Gas	0.644	ug/l	817.52
V	51	72	1	No Gas	7.728	ug/l	-4766.30
V	51	72	3	He	1.808	ug/l	40921.39
Cr	52	72	1	No Gas	1.112	ug/l	107931.65
Cr	52	72	3	He	0.451	ug/l	1686.77
Mn	55	72	1	No Gas	25.191	ug/l	351572.74
Mn	55	72	3	He	24.051	ug/l	31902.08
Fe	56	72	2	H2	101.576	ug/l	631293.61
Fe	56	72	3	He	84.489	ug/l	155980.11
Co	59	72	1	No Gas	0.145	ug/l	2092.68
Ni	60	72	1	No Gas	0.322	ug/l	1344.08
Ni	60	72	3	He	0.258	ug/l	294.45
Cu	63	72	1	No Gas	0.427	ug/l	4150.93
Cu	63	72	3	He	0.438	ug/l	1207.48
Cu	65	72	1	No Gas	0.404	ug/l	1630.08
Zn	66	72	1	No Gas	1.845	ug/l	3952.00
Zn	66	72	3	He	1.698	ug/l	861.14
As	75	72	1	No Gas	1.040	ug/l	22911.47
As	75	72	3	He	0.480	ug/l	681.80
Se	78	72	2	H2	0.201	ug/l	75.89
Br	79	72	1	No Gas	5.275	ug/l	33059.04
Br	79	72	2	H2	5.699	ug/l	18495.18
Se	82	72	1	No Gas	0.148	ug/l	569.94
Kr	84	72	1	No Gas		ug/l	25405.34
Sr	88	72	1	No Gas	95.643	ug/l	1657406.69
Sr	88	72	3	He	90.830	ug/l	186336.83
Mo	95	115	1	No Gas	14.807	ug/l	56700.04
Mo	95	115	3	He	16.278	ug/l	21205.80
Mo	98	115	1	No Gas	14.705	ug/l	91695.34
Ag	107	115	1	No Gas	-0.061	ug/l	110.04
Ag	109	115	1	No Gas	-0.065	ug/l	98.71
Cd	111	115	1	No Gas	0.013	ug/l	21.13

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	6.00
Cd	114	115	1	No Gas	0.012	ug/l	-3.09
Cd	114	115	3	He	-0.002	ug/l	7.43
Sn	118	115	1	No Gas	0.757	ug/l	7204.26
Sn	118	115	3	He	1.031	ug/l	2214.63
Sb	121	115	1	No Gas	0.111	ug/l	1307.53
Sb	121	115	3	He	0.118	ug/l	356.71
Sb	123	115	1	No Gas	0.120	ug/l	1079.82
Sb	123	115	3	He	0.119	ug/l	281.36
Ba	135	115	1	No Gas	2.400	ug/l	4891.21
Ba	137	115	1	No Gas	2.297	ug/l	8056.39
La	139	115	3	He	0.002	ug/l	27.78
Ce	140	115	3	He	0.010	ug/l	106.67
Hg	201	209	1	No Gas	0.006	ug/l	22.33
Hg	202	209	1	No Gas	0.029	ug/l	131.31
Hg	202	209	3	He	0.025	ug/l	54.32
Tl	203	209	3	He	0.119	ug/l	827.69
Tl	205	209	1	No Gas	0.087	ug/l	3342.67
Tl	205	209	3	He	0.124	ug/l	2040.98
[Pb]	206	209	1	No Gas	0.000	ug/l	3409.35
[Pb]	207	209	1	No Gas	0.002	ug/l	2750.31
Pb	208	209	1	No Gas	0.006	ug/l	13052.60
Th	232	209	3	He	0.225	ug/l	3560.59
U	238	209	1	No Gas	0.011	ug/l	367.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1931088.15	75.5
Sc	45	2	H2	879778.33	64.9
Sc	45	3	He	118627.94	74.4
Ge	72	1	No Gas	547349.10	81.7
Ge	72	2	H2	332966.49	73.1
Ge	72	3	He	82697.96	81.2
In	115	1	No Gas	3859799.17	84.6
In	115	3	He	885523.69	83.4
Tb	159	1	No Gas	5762040.74	90.8
Tb	159	3	He	2517808.19	95.0
Ho	165	1	No Gas	5708736.61	91.3
Ho	165	3	He	2554507.86	96.7
Lu	175	1	No Gas	5929850.73	93.5
Lu	175	3	He	2106110.78	95.1
Bi	209	1	No Gas	4173166.90	95.4
Bi	209	3	He	1922974.81	95.8

ICPMS207-B Analytical Data

Sample Name B22011446-011A
File Name 054SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 17:56:10
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	-0.427	ug/l	9935.24
Be	9	45	1	No Gas	-0.127	ug/l	113.31
B	11	45	1	No Gas	95.118	ug/l	149449.83
Na	23	45	3	He	53428.901	ug/l	25629584.06
Mg	24	45	3	He	21547.434	ug/l	5825715.49
Al	27	45	1	No Gas	-1.781	ug/l	25753.23
Si	28	45	2	H2	19816.152	ug/l	26033667.87
K	39	72	3	He	2237.284	ug/l	720489.05
Ca	40	72	2	H2	21307.269	ug/l	97323802.88
Ti	47	72	1	No Gas	1.209	ug/l	1583.35
V	51	72	1	No Gas	18.694	ug/l	142435.72
V	51	72	3	He	-5.798	ug/l	33704.06
Cr	52	72	1	No Gas	-6.191	ug/l	40708.84
Cr	52	72	3	He	0.274	ug/l	1656.77
Mn	55	72	1	No Gas	70.089	ug/l	1129036.98
Mn	55	72	3	He	69.082	ug/l	113765.29
Fe	56	72	2	H2	31.377	ug/l	282574.58
Fe	56	72	3	He	30.511	ug/l	74574.80
Co	59	72	1	No Gas	0.229	ug/l	3590.00
Ni	60	72	1	No Gas	3.155	ug/l	9640.74
Ni	60	72	3	He	3.112	ug/l	3079.24
Cu	63	72	1	No Gas	0.701	ug/l	6863.05
Cu	63	72	3	He	0.586	ug/l	1867.75
Cu	65	72	1	No Gas	0.709	ug/l	2929.48
Zn	66	72	1	No Gas	10.537	ug/l	24648.55
Zn	66	72	3	He	9.677	ug/l	5544.43
As	75	72	1	No Gas	-4.681	ug/l	10065.89
As	75	72	3	He	-0.756	ug/l	154.13
Se	78	72	2	H2	0.716	ug/l	275.23
Br	79	72	1	No Gas	188.315	ug/l	1221968.09
Br	79	72	2	H2	191.052	ug/l	779547.62
Se	82	72	1	No Gas	3.585	ug/l	1278.78
Kr	84	72	1	No Gas		ug/l	38978.74
Sr	88	72	1	No Gas	188.354	ug/l	3862908.24
Sr	88	72	3	He	169.751	ug/l	433405.90
Mo	95	115	1	No Gas	0.230	ug/l	1105.61
Mo	95	115	3	He	0.234	ug/l	378.90
Mo	98	115	1	No Gas	0.200	ug/l	1552.94
Ag	107	115	1	No Gas	-0.062	ug/l	118.71
Ag	109	115	1	No Gas	-0.065	ug/l	110.71
Cd	111	115	1	No Gas	0.273	ug/l	704.29

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.277	ug/l	239.23
Cd	114	115	1	No Gas	0.269	ug/l	1563.70
Cd	114	115	3	He	0.292	ug/l	601.59
Sn	118	115	1	No Gas	-0.212	ug/l	984.75
Sn	118	115	3	He	-0.204	ug/l	172.22
Sb	121	115	1	No Gas	0.031	ug/l	547.07
Sb	121	115	3	He	0.028	ug/l	129.34
Sb	123	115	1	No Gas	0.030	ug/l	400.72
Sb	123	115	3	He	0.034	ug/l	117.01
Ba	135	115	1	No Gas	14.830	ug/l	36849.02
Ba	137	115	1	No Gas	14.422	ug/l	61630.29
La	139	115	3	He	0.000	ug/l	12.22
Ce	140	115	3	He	0.002	ug/l	35.56
Hg	201	209	1	No Gas	0.003	ug/l	18.67
Hg	202	209	1	No Gas	0.007	ug/l	51.66
Hg	202	209	3	He	0.007	ug/l	23.33
Tl	203	209	3	He	0.052	ug/l	615.60
Tl	205	209	1	No Gas	0.035	ug/l	2563.60
Tl	205	209	3	He	0.052	ug/l	1456.67
[Pb]	206	209	1	No Gas	-0.131	ug/l	2802.54
[Pb]	207	209	1	No Gas	-0.106	ug/l	2374.67
Pb	208	209	1	No Gas	-0.112	ug/l	11022.98
Th	232	209	3	He	0.010	ug/l	312.13
U	238	209	1	No Gas	0.028	ug/l	1078.50

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2599437.08	101.6
Sc	45	2	H2	1408542.00	103.9
Sc	45	3	He	158905.45	99.6
Ge	72	1	No Gas	647687.07	96.7
Ge	72	2	H2	462732.11	101.6
Ge	72	3	He	102936.61	101.0
In	115	1	No Gas	4714832.02	103.3
In	115	3	He	1077310.78	101.5
Tb	159	1	No Gas	7032909.85	110.9
Tb	159	3	He	2917548.62	110.1
Ho	165	1	No Gas	6954325.85	111.2
Ho	165	3	He	2924346.15	110.7
Lu	175	1	No Gas	7179978.16	113.2
Lu	175	3	He	2458515.64	111.0
Bi	209	1	No Gas	4912264.86	112.3
Bi	209	3	He	2208551.80	110.1

ICPMS207-B Analytical Data

Sample Name B22011446-011B
File Name 055SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:02:23
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	1.076	ug/l	13847.20
Be	9	45	1	No Gas	-0.093	ug/l	153.64
B	11	45	1	No Gas	92.390	ug/l	106160.72
Na	23	45	3	He	53353.802	ug/l	18692492.64
Mg	24	45	3	He	21577.906	ug/l	4262847.07
Al	27	45	1	No Gas	21.622	ug/l	220839.74
Si	28	45	2	H2	20288.910	ug/l	20294023.31
K	39	72	3	He	2152.587	ug/l	545467.29
Ca	40	72	2	H2	20408.280	ug/l	77413666.77
Ti	47	72	1	No Gas	3.229	ug/l	3115.14
V	51	72	1	No Gas	18.633	ug/l	118814.72
V	51	72	3	He	10.835	ug/l	55799.85
Cr	52	72	1	No Gas	0.519	ug/l	99468.87
Cr	52	72	3	He	1.131	ug/l	2972.54
Mn	55	72	1	No Gas	70.366	ug/l	933096.16
Mn	55	72	3	He	71.968	ug/l	92636.82
Fe	56	72	2	H2	140.541	ug/l	1008464.73
Fe	56	72	3	He	140.533	ug/l	248847.57
Co	59	72	1	No Gas	0.386	ug/l	4674.82
Ni	60	72	1	No Gas	3.150	ug/l	7919.79
Ni	60	72	3	He	3.324	ug/l	2564.69
Cu	63	72	1	No Gas	1.545	ug/l	10590.78
Cu	63	72	3	He	1.604	ug/l	3408.05
Cu	65	72	1	No Gas	1.537	ug/l	4642.61
Zn	66	72	1	No Gas	24.058	ug/l	45889.60
Zn	66	72	3	He	24.017	ug/l	10612.82
As	75	72	1	No Gas	0.052	ug/l	20152.91
As	75	72	3	He	0.248	ug/l	561.67
Se	78	72	2	H2	0.799	ug/l	251.11
Br	79	72	1	No Gas	12.570	ug/l	71274.98
Br	79	72	2	H2	9.857	ug/l	35456.60
Se	82	72	1	No Gas	0.831	ug/l	652.34
Kr	84	72	1	No Gas		ug/l	32355.38
Sr	88	72	1	No Gas	180.614	ug/l	3048774.17
Sr	88	72	3	He	174.442	ug/l	348172.16
Mo	95	115	1	No Gas	0.324	ug/l	1194.50
Mo	95	115	3	He	0.306	ug/l	400.01
Mo	98	115	1	No Gas	0.302	ug/l	1804.09
Ag	107	115	1	No Gas	-0.062	ug/l	91.37
Ag	109	115	1	No Gas	-0.065	ug/l	88.04
Cd	111	115	1	No Gas	0.294	ug/l	587.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.290	ug/l	203.11
Cd	114	115	1	No Gas	0.286	ug/l	1294.73
Cd	114	115	3	He	0.291	ug/l	485.27
Sn	118	115	1	No Gas	0.751	ug/l	6781.55
Sn	118	115	3	He	1.035	ug/l	2187.96
Sb	121	115	1	No Gas	0.077	ug/l	890.45
Sb	121	115	3	He	0.084	ug/l	258.36
Sb	123	115	1	No Gas	0.079	ug/l	698.42
Sb	123	115	3	He	0.079	ug/l	191.69
Ba	135	115	1	No Gas	15.827	ug/l	30486.39
Ba	137	115	1	No Gas	15.850	ug/l	52558.76
La	139	115	3	He	0.030	ug/l	293.34
Ce	140	115	3	He	0.046	ug/l	478.90
Hg	201	209	1	No Gas	0.012	ug/l	30.33
Hg	202	209	1	No Gas	0.017	ug/l	81.65
Hg	202	209	3	He	0.016	ug/l	37.32
Tl	203	209	3	He	0.112	ug/l	798.35
Tl	205	209	1	No Gas	0.087	ug/l	3230.41
Tl	205	209	3	He	0.112	ug/l	1912.91
[Pb]	206	209	1	No Gas	0.309	ug/l	5673.47
[Pb]	207	209	1	No Gas	0.346	ug/l	4949.84
Pb	208	209	1	No Gas	0.325	ug/l	22389.68
Th	232	209	3	He	0.114	ug/l	1864.22
U	238	209	1	No Gas	0.033	ug/l	1020.84

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1912294.69	74.7
Sc	45	2	H2	1072400.11	79.1
Sc	45	3	He	116102.67	72.8
Ge	72	1	No Gas	534307.45	79.8
Ge	72	2	H2	384492.73	84.4
Ge	72	3	He	80461.76	79.0
In	115	1	No Gas	3680750.68	80.7
In	115	3	He	873123.46	82.2
Tb	159	1	No Gas	5744327.04	90.6
Tb	159	3	He	2489001.00	93.9
Ho	165	1	No Gas	5731642.90	91.7
Ho	165	3	He	2498323.13	94.6
Lu	175	1	No Gas	5933199.60	93.6
Lu	175	3	He	2125004.25	96.0
Bi	209	1	No Gas	4069737.22	93.1
Bi	209	3	He	1927435.36	96.1

ICPMS207-B Analytical Data

Sample Name B22011446-017A
File Name 056SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:08:37
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	-0.523	ug/l	9404.70
Be	9	45	1	No Gas	-0.131	ug/l	104.31
B	11	45	1	No Gas	79.300	ug/l	125437.31
Na	23	45	3	He	49525.934	ug/l	23361652.71
Mg	24	45	3	He	19643.094	ug/l	5223243.86
Al	27	45	1	No Gas	-1.476	ug/l	29514.20
Si	28	45	2	H2	20398.837	ug/l	26904707.26
K	39	72	3	He	2235.804	ug/l	716108.14
Ca	40	72	2	H2	19822.123	ug/l	91988300.06
Ti	47	72	1	No Gas	1.186	ug/l	1600.04
V	51	72	1	No Gas	21.090	ug/l	179818.72
V	51	72	3	He	-4.610	ug/l	36198.91
Cr	52	72	1	No Gas	-5.932	ug/l	45042.54
Cr	52	72	3	He	0.952	ug/l	3334.84
Mn	55	72	1	No Gas	14.803	ug/l	257786.34
Mn	55	72	3	He	15.186	ug/l	24998.83
Fe	56	72	2	H2	12.078	ug/l	119827.26
Fe	56	72	3	He	11.597	ug/l	32500.35
Co	59	72	1	No Gas	0.049	ug/l	1230.95
Ni	60	72	1	No Gas	1.623	ug/l	5433.59
Ni	60	72	3	He	1.611	ug/l	1643.44
Cu	63	72	1	No Gas	0.743	ug/l	7366.83
Cu	63	72	3	He	0.693	ug/l	2118.40
Cu	65	72	1	No Gas	0.752	ug/l	3156.28
Zn	66	72	1	No Gas	4.829	ug/l	11852.25
Zn	66	72	3	He	4.701	ug/l	2740.28
As	75	72	1	No Gas	-4.539	ug/l	10764.29
As	75	72	3	He	-0.778	ug/l	141.13
Se	78	72	2	H2	0.638	ug/l	253.56
Br	79	72	1	No Gas	46.811	ug/l	316253.92
Br	79	72	2	H2	42.761	ug/l	179337.97
Se	82	72	1	No Gas	0.605	ug/l	778.08
Kr	84	72	1	No Gas		ug/l	36570.31
Sr	88	72	1	No Gas	169.300	ug/l	3569941.82
Sr	88	72	3	He	159.980	ug/l	406252.42
Mo	95	115	1	No Gas	0.209	ug/l	1018.93
Mo	95	115	3	He	0.208	ug/l	344.45
Mo	98	115	1	No Gas	0.193	ug/l	1514.67
Ag	107	115	1	No Gas	-0.062	ug/l	121.38
Ag	109	115	1	No Gas	-0.065	ug/l	122.05
Cd	111	115	1	No Gas	0.139	ug/l	359.00

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.133	ug/l	120.33
Cd	114	115	1	No Gas	0.136	ug/l	766.38
Cd	114	115	3	He	0.133	ug/l	287.06
Sn	118	115	1	No Gas	-0.228	ug/l	861.65
Sn	118	115	3	He	-0.216	ug/l	150.00
Sb	121	115	1	No Gas	0.021	ug/l	417.38
Sb	121	115	3	He	0.019	ug/l	102.34
Sb	123	115	1	No Gas	0.021	ug/l	315.37
Sb	123	115	3	He	0.025	ug/l	95.01
Ba	135	115	1	No Gas	9.427	ug/l	23689.85
Ba	137	115	1	No Gas	9.436	ug/l	40792.20
La	139	115	3	He	0.000	ug/l	14.44
Ce	140	115	3	He	0.007	ug/l	94.47
Hg	201	209	1	No Gas	0.006	ug/l	24.66
Hg	202	209	1	No Gas	0.006	ug/l	47.66
Hg	202	209	3	He	0.006	ug/l	21.33
Tl	203	209	3	He	0.016	ug/l	445.52
Tl	205	209	1	No Gas	0.024	ug/l	2276.88
Tl	205	209	3	He	0.028	ug/l	1176.53
[Pb]	206	209	1	No Gas	-0.125	ug/l	2835.88
[Pb]	207	209	1	No Gas	-0.108	ug/l	2342.44
Pb	208	209	1	No Gas	-0.108	ug/l	11078.55
Th	232	209	3	He	0.003	ug/l	205.42
U	238	209	1	No Gas	0.028	ug/l	1073.83

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2612339.32	102.1
Sc	45	2	H2	1414021.57	104.3
Sc	45	3	He	156250.47	97.9
Ge	72	1	No Gas	666016.73	99.4
Ge	72	2	H2	470169.99	103.2
Ge	72	3	He	102376.36	100.5
In	115	1	No Gas	4770051.26	104.5
In	115	3	He	1098567.91	103.5
Tb	159	1	No Gas	7118790.31	112.2
Tb	159	3	He	2950867.95	111.3
Ho	165	1	No Gas	7049517.50	112.7
Ho	165	3	He	2963448.92	112.2
Lu	175	1	No Gas	7182227.91	113.2
Lu	175	3	He	2498313.46	112.8
Bi	209	1	No Gas	4875504.70	111.5
Bi	209	3	He	2249567.53	112.1

ICPMS207-B Analytical Data

Sample Name CCV
File Name 057_CC.V.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:14:51
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	397.980	ug/l	1990916.07
Be	9	45	1	No Gas	39.276	ug/l	91667.26
B	11	45	1	No Gas	44.608	ug/l	58714.06
Na	23	45	3	He	12599.742	ug/l	5230820.51
Mg	24	45	3	He	12332.312	ug/l	2870562.15
Al	27	45	1	No Gas	44.081	ug/l	470794.59
Si	28	45	2	H2	210.335	ug/l	254583.82
K	39	72	3	He	11269.744	ug/l	2873932.60
Ca	40	72	2	H2	11853.254	ug/l	51648524.20
Ti	47	72	1	No Gas	48.685	ug/l	49799.24
V	51	72	1	No Gas	57.821	ug/l	629347.55
V	51	72	3	He	44.113	ug/l	134191.99
Cr	52	72	1	No Gas	48.428	ug/l	645283.75
Cr	52	72	3	He	53.334	ug/l	122926.23
Mn	55	72	1	No Gas	53.529	ug/l	807527.30
Mn	55	72	3	He	54.962	ug/l	82781.12
Fe	56	72	2	H2	1342.116	ug/l	10927661.55
Fe	56	72	3	He	1304.068	ug/l	2648338.14
Co	59	72	1	No Gas	51.514	ug/l	639081.73
Ni	60	72	1	No Gas	54.318	ug/l	144595.60
Ni	60	72	3	He	55.437	ug/l	48308.43
Cu	63	72	1	No Gas	54.373	ug/l	362735.84
Cu	63	72	3	He	58.084	ug/l	130438.94
Cu	65	72	1	No Gas	56.564	ug/l	173300.00
Zn	66	72	1	No Gas	60.083	ug/l	129147.50
Zn	66	72	3	He	57.527	ug/l	29574.52
As	75	72	1	No Gas	54.666	ug/l	176030.69
As	75	72	3	He	55.511	ug/l	29063.49
Se	78	72	2	H2	57.220	ug/l	17955.83
Br	79	72	1	No Gas	2.157	ug/l	17712.48
Br	79	72	2	H2	1.719	ug/l	9144.78
Se	82	72	1	No Gas	58.984	ug/l	10227.87
Kr	84	72	1	No Gas		ug/l	23122.70
Sr	88	72	1	No Gas	58.374	ug/l	1117178.26
Sr	88	72	3	He	57.883	ug/l	135165.73
Mo	95	115	1	No Gas	49.380	ug/l	205459.68
Mo	95	115	3	He	52.969	ug/l	79164.90
Mo	98	115	1	No Gas	49.459	ug/l	334880.17
Ag	107	115	1	No Gas	20.452	ug/l	226454.84
Ag	109	115	1	No Gas	20.611	ug/l	218525.88
Cd	111	115	1	No Gas	56.371	ug/l	130634.99

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	56.994	ug/l	45508.15
Cd	114	115	1	No Gas	54.302	ug/l	294421.90
Cd	114	115	3	He	59.352	ug/l	112698.39
Sn	118	115	1	No Gas	49.941	ug/l	360794.89
Sn	118	115	3	He	54.504	ug/l	105526.27
Sb	121	115	1	No Gas	53.802	ug/l	628298.39
Sb	121	115	3	He	54.971	ug/l	174678.50
Sb	123	115	1	No Gas	53.601	ug/l	481860.55
Sb	123	115	3	He	55.250	ug/l	138420.52
Ba	135	115	1	No Gas	56.095	ug/l	123880.27
Ba	137	115	1	No Gas	55.757	ug/l	211838.06
La	139	115	3	He	52.732	ug/l	579479.01
Ce	140	115	3	He	51.835	ug/l	621437.58
Hg	201	209	1	No Gas	0.934	ug/l	1751.77
Hg	202	209	1	No Gas	0.953	ug/l	4013.14
Hg	202	209	3	He	0.973	ug/l	2000.75
Tl	203	209	3	He	52.938	ug/l	255939.13
Tl	205	209	1	No Gas	52.405	ug/l	1259206.36
Tl	205	209	3	He	51.602	ug/l	620724.65
[Pb]	206	209	1	No Gas	52.139	ug/l	447316.26
[Pb]	207	209	1	No Gas	52.302	ug/l	388448.91
Pb	208	209	1	No Gas	52.256	ug/l	1780459.56
Th	232	209	3	He	51.776	ug/l	882328.48
U	238	209	1	No Gas	54.414	ug/l	1834019.93

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2154444.47	84.2
Sc	45	2	H2	1258243.23	92.8
Sc	45	3	He	136737.27	85.7
Ge	72	1	No Gas	604462.31	90.2
Ge	72	2	H2	441053.13	96.8
Ge	72	3	He	94123.21	92.4
In	115	1	No Gas	4195236.52	91.9
In	115	3	He	1016172.94	95.7
Tb	159	1	No Gas	6245535.99	98.5
Tb	159	3	He	2741650.80	103.4
Ho	165	1	No Gas	6277177.32	100.4
Ho	165	3	He	2784170.43	105.4
Lu	175	1	No Gas	6491443.25	102.4
Lu	175	3	He	2328263.42	105.2
Bi	209	1	No Gas	4511598.65	103.2
Bi	209	3	He	2149564.38	107.1

ICPMS207-B Analytical Data

Sample Name CCB
File Name 058_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:21:06
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	0.600	ug/l	12776.50
Be	9	45	1	No Gas	-0.115	ug/l	116.65
B	11	45	1	No Gas	1.980	ug/l	3567.19
Na	23	45	3	He	78.983	ug/l	66116.65
Mg	24	45	3	He	15.250	ug/l	5769.68
Al	27	45	1	No Gas	-2.660	ug/l	12188.34
Si	28	45	2	H2	0.133	ug/l	7793.16
K	39	72	3	He	-110.588	ug/l	79206.33
Ca	40	72	2	H2	-4.221	ug/l	90863.63
Ti	47	72	1	No Gas	-0.058	ug/l	176.84
V	51	72	1	No Gas	6.262	ug/l	-23723.86
V	51	72	3	He	-8.981	ug/l	23127.16
Cr	52	72	1	No Gas	-3.917	ug/l	59987.18
Cr	52	72	3	He	0.015	ug/l	881.14
Mn	55	72	1	No Gas	-0.281	ug/l	9843.84
Mn	55	72	3	He	-0.017	ug/l	120.31
Fe	56	72	2	H2	-0.608	ug/l	8945.07
Fe	56	72	3	He	-0.816	ug/l	4515.26
Co	59	72	1	No Gas	-0.005	ug/l	429.16
Ni	60	72	1	No Gas	-0.099	ug/l	349.31
Ni	60	72	3	He	-0.056	ug/l	58.89
Cu	63	72	1	No Gas	-0.076	ug/l	1175.19
Cu	63	72	3	He	0.006	ug/l	389.60
Cu	65	72	1	No Gas	-0.009	ug/l	510.22
Zn	66	72	1	No Gas	-0.015	ug/l	354.08
Zn	66	72	3	He	-0.029	ug/l	93.33
As	75	72	1	No Gas	-2.295	ug/l	15223.28
As	75	72	3	He	-0.400	ug/l	309.07
Se	78	72	2	H2	-0.016	ug/l	32.11
Br	79	72	1	No Gas	0.869	ug/l	9441.10
Br	79	72	2	H2	0.793	ug/l	5373.71
Se	82	72	1	No Gas	-0.565	ug/l	488.07
Kr	84	72	1	No Gas		ug/l	15121.30
Sr	88	72	1	No Gas	0.000	ug/l	232.87
Sr	88	72	3	He	0.011	ug/l	71.11
Mo	95	115	1	No Gas	0.022	ug/l	118.89
Mo	95	115	3	He	0.021	ug/l	37.78
Mo	98	115	1	No Gas	0.028	ug/l	213.96
Ag	107	115	1	No Gas	0.001	ug/l	807.01
Ag	109	115	1	No Gas	0.004	ug/l	834.36
Cd	111	115	1	No Gas	0.017	ug/l	32.02

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.005	ug/l	8.67
Cd	114	115	1	No Gas	0.015	ug/l	17.14
Cd	114	115	3	He	0.005	ug/l	21.90
Sn	118	115	1	No Gas	-0.054	ug/l	2006.17
Sn	118	115	3	He	-0.012	ug/l	522.24
Sb	121	115	1	No Gas	0.076	ug/l	1000.47
Sb	121	115	3	He	0.056	ug/l	206.02
Sb	123	115	1	No Gas	0.074	ug/l	755.43
Sb	123	115	3	He	0.062	ug/l	177.02
Ba	135	115	1	No Gas	0.007	ug/l	26.61
Ba	137	115	1	No Gas	0.000	ug/l	26.61
La	139	115	3	He	0.000	ug/l	8.89
Ce	140	115	3	He	0.001	ug/l	18.89
Hg	201	209	1	No Gas	0.009	ug/l	28.66
Hg	202	209	1	No Gas	0.012	ug/l	71.65
Hg	202	209	3	He	0.011	ug/l	32.33
Tl	203	209	3	He	0.157	ug/l	1138.51
Tl	205	209	1	No Gas	0.131	ug/l	4724.22
Tl	205	209	3	He	0.157	ug/l	2756.06
[Pb]	206	209	1	No Gas	-0.142	ug/l	2505.81
[Pb]	207	209	1	No Gas	-0.117	ug/l	2129.08
Pb	208	209	1	No Gas	-0.130	ug/l	9628.08
Th	232	209	3	He	0.078	ug/l	1509.37
U	238	209	1	No Gas	0.004	ug/l	167.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2063191.90	80.6
Sc	45	2	H2	1230194.62	90.7
Sc	45	3	He	126421.78	79.2
Ge	72	1	No Gas	572984.83	85.5
Ge	72	2	H2	426740.55	93.7
Ge	72	3	He	89867.63	88.2
In	115	1	No Gas	4185749.73	91.7
In	115	3	He	999609.96	94.1
Tb	159	1	No Gas	6312633.71	99.5
Tb	159	3	He	2754599.50	103.9
Ho	165	1	No Gas	6098862.19	97.5
Ho	165	3	He	2744518.20	103.9
Lu	175	1	No Gas	6270862.51	98.9
Lu	175	3	He	2281916.26	103.1
Bi	209	1	No Gas	4564403.31	104.4
Bi	209	3	He	2205927.63	109.9

ICPMS207-B Analytical Data

Sample Name B22011446-017B
File Name 059SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:27:20
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	1.405	ug/l	13257.08
Be	9	45	1	No Gas	-0.101	ug/l	117.65
B	11	45	1	No Gas	74.010	ug/l	73761.49
Na	23	45	3	He	47924.923	ug/l	15258723.52
Mg	24	45	3	He	19206.285	ug/l	3446445.53
Al	27	45	1	No Gas	0.251	ug/l	31506.55
Si	28	45	2	H2	20090.105	ug/l	19606210.20
K	39	72	3	He	1885.765	ug/l	487477.80
Ca	40	72	2	H2	18906.585	ug/l	70982408.24
Ti	47	72	1	No Gas	1.256	ug/l	1271.34
V	51	72	1	No Gas	16.242	ug/l	87197.45
V	51	72	3	He	7.784	ug/l	50190.12
Cr	52	72	1	No Gas	-0.460	ug/l	84792.73
Cr	52	72	3	He	1.282	ug/l	3251.49
Mn	55	72	1	No Gas	17.190	ug/l	224470.76
Mn	55	72	3	He	16.322	ug/l	21021.11
Fe	56	72	2	H2	24.806	ug/l	186210.08
Fe	56	72	3	He	22.694	ug/l	44585.83
Co	59	72	1	No Gas	0.150	ug/l	1976.23
Ni	60	72	1	No Gas	1.474	ug/l	3779.67
Ni	60	72	3	He	1.418	ug/l	1143.38
Cu	63	72	1	No Gas	1.114	ug/l	7629.73
Cu	63	72	3	He	1.080	ug/l	2394.72
Cu	65	72	1	No Gas	1.084	ug/l	3229.66
Zn	66	72	1	No Gas	4.022	ug/l	7536.15
Zn	66	72	3	He	3.924	ug/l	1807.90
As	75	72	1	No Gas	-1.722	ug/l	14563.58
As	75	72	3	He	-0.019	ug/l	442.33
Se	78	72	2	H2	0.729	ug/l	229.67
Br	79	72	1	No Gas	6.545	ug/l	36823.77
Br	79	72	2	H2	6.036	ug/l	22319.61
Se	82	72	1	No Gas	1.080	ug/l	656.34
Kr	84	72	1	No Gas		ug/l	30508.55
Sr	88	72	1	No Gas	171.472	ug/l	2734093.84
Sr	88	72	3	He	159.961	ug/l	317950.31
Mo	95	115	1	No Gas	0.352	ug/l	1304.51
Mo	95	115	3	He	0.343	ug/l	450.01
Mo	98	115	1	No Gas	0.336	ug/l	2008.70
Ag	107	115	1	No Gas	-0.064	ug/l	78.70
Ag	109	115	1	No Gas	-0.066	ug/l	82.70
Cd	111	115	1	No Gas	0.111	ug/l	220.08

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.110	ug/l	80.33
Cd	114	115	1	No Gas	0.111	ug/l	466.74
Cd	114	115	3	He	0.105	ug/l	183.87
Sn	118	115	1	No Gas	0.730	ug/l	6658.40
Sn	118	115	3	He	1.024	ug/l	2190.19
Sb	121	115	1	No Gas	0.053	ug/l	645.41
Sb	121	115	3	He	0.056	ug/l	182.35
Sb	123	115	1	No Gas	0.059	ug/l	542.40
Sb	123	115	3	He	0.060	ug/l	153.35
Ba	135	115	1	No Gas	10.115	ug/l	19531.75
Ba	137	115	1	No Gas	9.968	ug/l	33100.86
La	139	115	3	He	0.002	ug/l	27.78
Ce	140	115	3	He	0.004	ug/l	48.89
Hg	201	209	1	No Gas	0.019	ug/l	40.99
Hg	202	209	1	No Gas	0.024	ug/l	101.65
Hg	202	209	3	He	0.016	ug/l	37.99
Tl	203	209	3	He	0.137	ug/l	923.74
Tl	205	209	1	No Gas	0.111	ug/l	3612.74
Tl	205	209	3	He	0.134	ug/l	2203.74
[Pb]	206	209	1	No Gas	0.001	ug/l	3188.18
[Pb]	207	209	1	No Gas	0.008	ug/l	2603.61
Pb	208	209	1	No Gas	0.010	ug/l	12276.75
Th	232	209	3	He	0.174	ug/l	2834.78
U	238	209	1	No Gas	0.031	ug/l	928.18

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1649849.13	64.5
Sc	45	2	H2	1046263.86	77.2
Sc	45	3	He	105460.73	66.1
Ge	72	1	No Gas	504330.93	75.3
Ge	72	2	H2	380411.52	83.5
Ge	72	3	He	80152.35	78.7
In	115	1	No Gas	3678232.90	80.6
In	115	3	He	880493.77	82.9
Tb	159	1	No Gas	5524131.85	87.1
Tb	159	3	He	2545391.03	96.0
Ho	165	1	No Gas	5395358.35	86.3
Ho	165	3	He	2578192.58	97.6
Lu	175	1	No Gas	5637669.14	88.9
Lu	175	3	He	2164795.63	97.8
Bi	209	1	No Gas	3905689.57	89.3
Bi	209	3	He	1967835.23	98.1

ICPMS207-B Analytical Data

Sample Name B22011446-022A
File Name 060SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:33:34
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	-0.302	ug/l	10252.92
Be	9	45	1	No Gas	-0.131	ug/l	98.31
B	11	45	1	No Gas	281.282	ug/l	421296.21
Na	23	45	3	He	114014.073	ug/l	53525028.65
Mg	24	45	3	He	40896.823	ug/l	10829137.84
Al	27	45	1	No Gas	7.395	ug/l	128875.93
Si	28	45	2	H2	16604.006	ug/l	22084786.07
K	39	72	3	He	2491.679	ug/l	810662.93
Ca	40	72	2	H2	42752.856	ug/l	203013322.84
Ti	47	72	1	No Gas	1.316	ug/l	1711.83
V	51	72	1	No Gas	14.455	ug/l	85550.66
V	51	72	3	He	-11.154	ug/l	22173.39
Cr	52	72	1	No Gas	-5.957	ug/l	43764.95
Cr	52	72	3	He	0.295	ug/l	1756.78
Mn	55	72	1	No Gas	150.272	ug/l	2417832.00
Mn	55	72	3	He	144.210	ug/l	243892.88
Fe	56	72	2	H2	52.110	ug/l	478130.20
Fe	56	72	3	He	48.947	ug/l	118643.29
Co	59	72	1	No Gas	0.825	ug/l	11578.36
Ni	60	72	1	No Gas	6.876	ug/l	20333.97
Ni	60	72	3	He	6.708	ug/l	6679.34
Cu	63	72	1	No Gas	5.746	ug/l	43048.50
Cu	63	72	3	He	5.586	ug/l	14505.60
Cu	65	72	1	No Gas	5.809	ug/l	19749.30
Zn	66	72	1	No Gas	14.515	ug/l	33992.45
Zn	66	72	3	He	12.931	ug/l	7570.89
As	75	72	1	No Gas	-3.155	ug/l	14724.53
As	75	72	3	He	-0.580	ug/l	260.13
Se	78	72	2	H2	3.065	ug/l	1089.37
Br	79	72	1	No Gas	502.707	ug/l	3275474.53
Br	79	72	2	H2	511.485	ug/l	2167193.92
Se	82	72	1	No Gas	11.318	ug/l	2648.94
Kr	84	72	1	No Gas		ug/l	66414.13
Sr	88	72	1	No Gas	409.046	ug/l	8439405.37
Sr	88	72	3	He	380.810	ug/l	999332.24
Mo	95	115	1	No Gas	0.531	ug/l	2491.35
Mo	95	115	3	He	0.498	ug/l	832.25
Mo	98	115	1	No Gas	0.485	ug/l	3686.34
Ag	107	115	1	No Gas	-0.058	ug/l	174.07
Ag	109	115	1	No Gas	-0.060	ug/l	167.40
Cd	111	115	1	No Gas	0.124	ug/l	312.72

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.108	ug/l	100.67
Cd	114	115	1	No Gas	0.116	ug/l	629.66
Cd	114	115	3	He	0.109	ug/l	243.55
Sn	118	115	1	No Gas	-0.225	ug/l	868.31
Sn	118	115	3	He	-0.209	ug/l	168.89
Sb	121	115	1	No Gas	0.113	ug/l	1602.25
Sb	121	115	3	He	0.122	ug/l	466.05
Sb	123	115	1	No Gas	0.116	ug/l	1259.18
Sb	123	115	3	He	0.121	ug/l	363.37
Ba	135	115	1	No Gas	74.455	ug/l	183244.84
Ba	137	115	1	No Gas	73.970	ug/l	313090.44
La	139	115	3	He	0.012	ug/l	166.67
Ce	140	115	3	He	0.031	ug/l	416.67
Hg	201	209	1	No Gas	0.016	ug/l	43.66
Hg	202	209	1	No Gas	0.017	ug/l	95.98
Hg	202	209	3	He	0.014	ug/l	38.66
Tl	203	209	3	He	0.031	ug/l	515.55
Tl	205	209	1	No Gas	0.034	ug/l	2451.36
Tl	205	209	3	He	0.045	ug/l	1384.63
[Pb]	206	209	1	No Gas	0.026	ug/l	4109.56
[Pb]	207	209	1	No Gas	0.027	ug/l	3323.77
Pb	208	209	1	No Gas	0.031	ug/l	15725.96
Th	232	209	3	He	0.017	ug/l	440.19
U	238	209	1	No Gas	0.071	ug/l	2548.07

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2494856.29	97.5
Sc	45	2	H2	1425884.18	105.2
Sc	45	3	He	155654.38	97.6
Ge	72	1	No Gas	651557.12	97.3
Ge	72	2	H2	481469.56	105.7
Ge	72	3	He	105791.73	103.8
In	115	1	No Gas	4671941.28	102.4
In	115	3	He	1124284.78	105.9
Tb	159	1	No Gas	6978238.10	110.0
Tb	159	3	He	2994524.73	113.0
Ho	165	1	No Gas	6900448.17	110.3
Ho	165	3	He	2990077.86	113.2
Lu	175	1	No Gas	6956135.79	109.7
Lu	175	3	He	2516537.20	113.7
Bi	209	1	No Gas	4747154.89	108.6
Bi	209	3	He	2223647.54	110.8

ICPMS207-B Analytical Data

Sample Name B22011446-022B
File Name 061SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:39:48
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	0.730	ug/l	11611.76
Be	9	45	1	No Gas	-0.109	ug/l	113.31
B	11	45	1	No Gas	287.790	ug/l	309071.94
Na	23	45	3	He	115222.906	ug/l	39501423.58
Mg	24	45	3	He	40845.795	ug/l	7898254.22
Al	27	45	1	No Gas	21.597	ug/l	207799.09
Si	28	45	2	H2	16322.044	ug/l	16814988.94
K	39	72	3	He	2314.149	ug/l	593353.81
Ca	40	72	2	H2	41752.455	ug/l	159831525.90
Ti	47	72	1	No Gas	2.920	ug/l	2771.39
V	51	72	1	No Gas	22.394	ug/l	152936.72
V	51	72	3	He	0.547	ug/l	38489.20
Cr	52	72	1	No Gas	-0.867	ug/l	83690.22
Cr	52	72	3	He	0.699	ug/l	2177.95
Mn	55	72	1	No Gas	145.526	ug/l	1869627.75
Mn	55	72	3	He	142.590	ug/l	187889.44
Fe	56	72	2	H2	95.270	ug/l	694246.26
Fe	56	72	3	He	94.141	ug/l	172620.94
Co	59	72	1	No Gas	0.897	ug/l	10023.58
Ni	60	72	1	No Gas	6.813	ug/l	16110.30
Ni	60	72	3	He	6.792	ug/l	5266.53
Cu	63	72	1	No Gas	4.063	ug/l	24752.22
Cu	63	72	3	He	4.031	ug/l	8252.35
Cu	65	72	1	No Gas	4.003	ug/l	11022.60
Zn	66	72	1	No Gas	11.405	ug/l	21412.16
Zn	66	72	3	He	11.186	ug/l	5116.49
As	75	72	1	No Gas	-2.056	ug/l	14567.07
As	75	72	3	He	0.274	ug/l	586.93
Se	78	72	2	H2	3.110	ug/l	890.70
Br	79	72	1	No Gas	26.698	ug/l	142396.88
Br	79	72	2	H2	21.571	ug/l	75780.80
Se	82	72	1	No Gas	3.021	ug/l	950.88
Kr	84	72	1	No Gas		ug/l	53309.49
Sr	88	72	1	No Gas	409.416	ug/l	6752383.17
Sr	88	72	3	He	392.638	ug/l	802695.24
Mo	95	115	1	No Gas	0.648	ug/l	2401.33
Mo	95	115	3	He	0.716	ug/l	963.37
Mo	98	115	1	No Gas	0.643	ug/l	3861.95
Ag	107	115	1	No Gas	-0.058	ug/l	138.06
Ag	109	115	1	No Gas	-0.060	ug/l	137.39
Cd	111	115	1	No Gas	0.078	ug/l	152.92

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.078	ug/l	59.78
Cd	114	115	1	No Gas	0.083	ug/l	337.94
Cd	114	115	3	He	0.077	ug/l	142.41
Sn	118	115	1	No Gas	0.611	ug/l	5976.12
Sn	118	115	3	He	0.972	ug/l	2170.18
Sb	121	115	1	No Gas	0.141	ug/l	1558.58
Sb	121	115	3	He	0.148	ug/l	449.05
Sb	123	115	1	No Gas	0.152	ug/l	1287.52
Sb	123	115	3	He	0.159	ug/l	379.04
Ba	135	115	1	No Gas	78.672	ug/l	153249.33
Ba	137	115	1	No Gas	77.345	ug/l	259117.32
La	139	115	3	He	0.023	ug/l	234.45
Ce	140	115	3	He	0.056	ug/l	611.13
Hg	201	209	1	No Gas	0.027	ug/l	53.66
Hg	202	209	1	No Gas	0.032	ug/l	132.31
Hg	202	209	3	He	0.030	ug/l	64.32
Tl	203	209	3	He	0.086	ug/l	707.64
Tl	205	209	1	No Gas	0.067	ug/l	2703.63
Tl	205	209	3	He	0.090	ug/l	1734.15
[Pb]	206	209	1	No Gas	0.404	ug/l	6123.67
[Pb]	207	209	1	No Gas	0.410	ug/l	5141.03
Pb	208	209	1	No Gas	0.417	ug/l	24068.70
Th	232	209	3	He	0.090	ug/l	1543.38
U	238	209	1	No Gas	0.079	ug/l	2323.08

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1787809.17	69.9
Sc	45	2	H2	1104431.47	81.5
Sc	45	3	He	113673.16	71.2
Ge	72	1	No Gas	520706.46	77.7
Ge	72	2	H2	388145.00	85.2
Ge	72	3	He	82426.07	80.9
In	115	1	No Gas	3697351.77	81.0
In	115	3	He	908326.37	85.5
Tb	159	1	No Gas	5600312.25	88.3
Tb	159	3	He	2580583.91	97.3
Ho	165	1	No Gas	5566766.99	89.0
Ho	165	3	He	2646173.61	100.2
Lu	175	1	No Gas	5741800.19	90.5
Lu	175	3	He	2216153.18	100.1
Bi	209	1	No Gas	3876400.17	88.7
Bi	209	3	He	1986042.53	99.0

ICPMS207-B Analytical Data

Sample Name B22011446-027A
File Name 062SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:46:02
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	-0.426	ug/l	9820.44
Be	9	45	1	No Gas	-0.139	ug/l	80.32
B	11	45	1	No Gas	35.383	ug/l	55793.81
Na	23	45	3	He	35993.942	ug/l	16904850.72
Mg	24	45	3	He	17087.020	ug/l	4520016.75
Al	27	45	1	No Gas	-1.151	ug/l	32795.98
Si	28	45	2	H2	25344.230	ug/l	34986744.89
K	39	72	3	He	3132.329	ug/l	996514.83
Ca	40	72	2	H2	16021.284	ug/l	77100093.21
Ti	47	72	1	No Gas	1.441	ug/l	1897.03
V	51	72	1	No Gas	17.444	ug/l	129403.67
V	51	72	3	He	-10.019	ug/l	25045.82
Cr	52	72	1	No Gas	-6.152	ug/l	42546.93
Cr	52	72	3	He	0.768	ug/l	3002.54
Mn	55	72	1	No Gas	7.128	ug/l	133137.56
Mn	55	72	3	He	7.534	ug/l	13022.48
Fe	56	72	2	H2	-0.430	ug/l	11821.67
Fe	56	72	3	He	-0.946	ug/l	5065.99
Co	59	72	1	No Gas	0.029	ug/l	961.46
Ni	60	72	1	No Gas	0.844	ug/l	3177.39
Ni	60	72	3	He	0.751	ug/l	866.70
Cu	63	72	1	No Gas	1.028	ug/l	9498.91
Cu	63	72	3	He	0.932	ug/l	2815.04
Cu	65	72	1	No Gas	1.042	ug/l	4151.60
Zn	66	72	1	No Gas	2.122	ug/l	5492.00
Zn	66	72	3	He	1.874	ug/l	1215.62
As	75	72	1	No Gas	-4.781	ug/l	10093.92
As	75	72	3	He	-0.739	ug/l	170.13
Se	78	72	2	H2	0.194	ug/l	109.22
Br	79	72	1	No Gas	32.592	ug/l	222916.51
Br	79	72	2	H2	29.000	ug/l	126977.40
Se	82	72	1	No Gas	0.125	ug/l	694.08
Kr	84	72	1	No Gas		ug/l	42361.45
Sr	88	72	1	No Gas	201.617	ug/l	4271850.11
Sr	88	72	3	He	187.198	ug/l	495828.54
Mo	95	115	1	No Gas	0.380	ug/l	1877.91
Mo	95	115	3	He	0.430	ug/l	728.91
Mo	98	115	1	No Gas	0.372	ug/l	2968.73
Ag	107	115	1	No Gas	-0.060	ug/l	154.06
Ag	109	115	1	No Gas	-0.064	ug/l	136.05
Cd	111	115	1	No Gas	0.036	ug/l	90.48

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.032	ug/l	33.67
Cd	114	115	1	No Gas	0.044	ug/l	200.90
Cd	114	115	3	He	0.031	ug/l	80.57
Sn	118	115	1	No Gas	-0.243	ug/l	758.52
Sn	118	115	3	He	-0.222	ug/l	143.34
Sb	121	115	1	No Gas	0.061	ug/l	975.80
Sb	121	115	3	He	0.065	ug/l	269.36
Sb	123	115	1	No Gas	0.063	ug/l	772.77
Sb	123	115	3	He	0.071	ug/l	229.36
Ba	135	115	1	No Gas	4.809	ug/l	12424.29
Ba	137	115	1	No Gas	4.704	ug/l	20917.67
La	139	115	3	He	0.000	ug/l	14.44
Ce	140	115	3	He	0.002	ug/l	37.78
Hg	201	209	1	No Gas	0.000	ug/l	14.00
Hg	202	209	1	No Gas	0.007	ug/l	51.99
Hg	202	209	3	He	0.006	ug/l	21.99
Tl	203	209	3	He	0.014	ug/l	450.19
Tl	205	209	1	No Gas	0.017	ug/l	2116.85
Tl	205	209	3	He	0.017	ug/l	1075.81
[Pb]	206	209	1	No Gas	-0.155	ug/l	2600.28
[Pb]	207	209	1	No Gas	-0.129	ug/l	2204.64
Pb	208	209	1	No Gas	-0.133	ug/l	10357.23
Th	232	209	3	He	-0.001	ug/l	136.72
U	238	209	1	No Gas	0.012	ug/l	467.25

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2569450.51	100.4
Sc	45	2	H2	1480083.04	109.2
Sc	45	3	He	155430.01	97.4
Ge	72	1	No Gas	669501.31	99.9
Ge	72	2	H2	487375.08	107.0
Ge	72	3	He	106775.78	104.8
In	115	1	No Gas	4902494.80	107.4
In	115	3	He	1139614.50	107.3
Tb	159	1	No Gas	7164479.39	112.9
Tb	159	3	He	3078507.28	116.1
Ho	165	1	No Gas	6989311.41	111.8
Ho	165	3	He	3115988.56	118.0
Lu	175	1	No Gas	7147944.78	112.7
Lu	175	3	He	2584722.83	116.7
Bi	209	1	No Gas	4960570.90	113.5
Bi	209	3	He	2309423.54	115.1

ICPMS207-B Analytical Data

Sample Name B22011446-027B
File Name 063SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:52:16
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	0.712	ug/l	10780.15
Be	9	45	1	No Gas	-0.081	ug/l	158.66
B	11	45	1	No Gas	35.709	ug/l	36586.36
Na	23	45	3	He	36277.232	ug/l	11590244.41
Mg	24	45	3	He	16433.456	ug/l	2955875.67
Al	27	45	1	No Gas	121.713	ug/l	953673.40
Si	28	45	2	H2	26492.102	ug/l	25942106.24
K	39	72	3	He	2772.150	ug/l	675243.24
Ca	40	72	2	H2	15316.331	ug/l	58158633.67
Ti	47	72	1	No Gas	8.373	ug/l	7409.34
V	51	72	1	No Gas	16.506	ug/l	89241.37
V	51	72	3	He	1.694	ug/l	39612.24
Cr	52	72	1	No Gas	-1.157	ug/l	79384.55
Cr	52	72	3	He	1.335	ug/l	3371.52
Mn	55	72	1	No Gas	20.261	ug/l	265865.32
Mn	55	72	3	He	19.372	ug/l	25026.55
Fe	56	72	2	H2	111.521	ug/l	803047.86
Fe	56	72	3	He	105.089	ug/l	187511.16
Co	59	72	1	No Gas	0.247	ug/l	3021.00
Ni	60	72	1	No Gas	0.987	ug/l	2741.51
Ni	60	72	3	He	0.928	ug/l	784.47
Cu	63	72	1	No Gas	1.216	ug/l	8297.69
Cu	63	72	3	He	1.183	ug/l	2601.72
Cu	65	72	1	No Gas	1.253	ug/l	3709.97
Zn	66	72	1	No Gas	1.247	ug/l	2601.06
Zn	66	72	3	He	1.154	ug/l	601.13
As	75	72	1	No Gas	1.143	ug/l	21902.48
As	75	72	3	He	-0.060	ug/l	426.53
Se	78	72	2	H2	0.263	ug/l	105.00
Br	79	72	1	No Gas	7.407	ug/l	41730.77
Br	79	72	2	H2	6.106	ug/l	22802.96
Se	82	72	1	No Gas	0.553	ug/l	586.74
Kr	84	72	1	No Gas		ug/l	33012.35
Sr	88	72	1	No Gas	199.301	ug/l	3218606.49
Sr	88	72	3	He	190.325	ug/l	379867.08
Mo	95	115	1	No Gas	0.453	ug/l	1689.00
Mo	95	115	3	He	0.510	ug/l	674.47
Mo	98	115	1	No Gas	0.491	ug/l	2957.62
Ag	107	115	1	No Gas	-0.054	ug/l	173.40
Ag	109	115	1	No Gas	-0.057	ug/l	163.40
Cd	111	115	1	No Gas	0.009	ug/l	12.02

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	6.44
Cd	114	115	1	No Gas	0.016	ug/l	15.85
Cd	114	115	3	He	-0.002	ug/l	6.73
Sn	118	115	1	No Gas	0.664	ug/l	6325.57
Sn	118	115	3	He	0.975	ug/l	2133.51
Sb	121	115	1	No Gas	0.087	ug/l	1002.47
Sb	121	115	3	He	0.098	ug/l	302.36
Sb	123	115	1	No Gas	0.091	ug/l	800.10
Sb	123	115	3	He	0.103	ug/l	248.36
Ba	135	115	1	No Gas	5.333	ug/l	10403.41
Ba	137	115	1	No Gas	5.504	ug/l	18488.97
La	139	115	3	He	0.035	ug/l	352.23
Ce	140	115	3	He	0.093	ug/l	980.04
Hg	201	209	1	No Gas	0.010	ug/l	27.00
Hg	202	209	1	No Gas	0.015	ug/l	72.32
Hg	202	209	3	He	0.016	ug/l	39.32
Tl	203	209	3	He	0.072	ug/l	672.29
Tl	205	209	1	No Gas	0.060	ug/l	2655.84
Tl	205	209	3	He	0.078	ug/l	1674.11
[Pb]	206	209	1	No Gas	-0.045	ug/l	2958.13
[Pb]	207	209	1	No Gas	-0.026	ug/l	2483.59
Pb	208	209	1	No Gas	-0.025	ug/l	11711.02
Th	232	209	3	He	0.056	ug/l	1055.14
U	238	209	1	No Gas	0.013	ug/l	419.59

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1676827.81	65.5
Sc	45	2	H2	1049988.17	77.4
Sc	45	3	He	105710.00	66.3
Ge	72	1	No Gas	510724.39	76.2
Ge	72	2	H2	384577.64	84.4
Ge	72	3	He	80477.23	79.0
In	115	1	No Gas	3714948.29	81.4
In	115	3	He	890980.23	83.9
Tb	159	1	No Gas	5686540.35	89.6
Tb	159	3	He	2578706.53	97.3
Ho	165	1	No Gas	5607183.50	89.7
Ho	165	3	He	2566133.46	97.2
Lu	175	1	No Gas	5756075.51	90.8
Lu	175	3	He	2125867.09	96.0
Bi	209	1	No Gas	4043860.61	92.5
Bi	209	3	He	2075317.47	103.4

ICPMS207-B Analytical Data

Sample Name B22011446-032A
File Name 064SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 18:58:30
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	-1.026	ug/l	6010.94
Be	9	45	1	No Gas	-0.140	ug/l	72.99
B	11	45	1	No Gas	33.689	ug/l	51105.77
Na	23	45	3	He	38617.688	ug/l	17652696.96
Mg	24	45	3	He	17571.409	ug/l	4524179.41
Al	27	45	1	No Gas	-2.200	ug/l	19734.19
Si	28	45	2	H2	17487.644	ug/l	23631020.53
K	39	72	3	He	1039.827	ug/l	411655.76
Ca	40	72	2	H2	16431.868	ug/l	79356373.58
Ti	47	72	1	No Gas	1.100	ug/l	1474.89
V	51	72	1	No Gas	10.089	ug/l	25289.22
V	51	72	3	He	-17.691	ug/l	6972.81
Cr	52	72	1	No Gas	-6.951	ug/l	31901.47
Cr	52	72	3	He	-0.043	ug/l	890.06
Mn	55	72	1	No Gas	388.996	ug/l	6244932.90
Mn	55	72	3	He	363.328	ug/l	616000.35
Fe	56	72	2	H2	98.308	ug/l	902409.65
Fe	56	72	3	He	94.133	ug/l	222239.57
Co	59	72	1	No Gas	0.151	ug/l	2581.79
Ni	60	72	1	No Gas	0.193	ug/l	1230.96
Ni	60	72	3	He	0.189	ug/l	310.01
Cu	63	72	1	No Gas	0.108	ug/l	2664.65
Cu	63	72	3	He	0.029	ug/l	518.57
Cu	65	72	1	No Gas	0.088	ug/l	901.73
Zn	66	72	1	No Gas	10.009	ug/l	23611.19
Zn	66	72	3	He	9.192	ug/l	5435.49
As	75	72	1	No Gas	-4.933	ug/l	9351.17
As	75	72	3	He	-0.705	ug/l	188.53
Se	78	72	2	H2	-0.059	ug/l	21.89
Br	79	72	1	No Gas	24.451	ug/l	164288.78
Br	79	72	2	H2	21.086	ug/l	93408.00
Se	82	72	1	No Gas	0.314	ug/l	710.89
Kr	84	72	1	No Gas		ug/l	37471.09
Sr	88	72	1	No Gas	171.379	ug/l	3542656.37
Sr	88	72	3	He	155.989	ug/l	410513.93
Mo	95	115	1	No Gas	5.865	ug/l	27846.14
Mo	95	115	3	He	6.548	ug/l	10681.82
Mo	98	115	1	No Gas	5.786	ug/l	44720.23
Ag	107	115	1	No Gas	-0.062	ug/l	122.72
Ag	109	115	1	No Gas	-0.066	ug/l	110.05
Cd	111	115	1	No Gas	0.035	ug/l	84.16

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.028	ug/l	29.67
Cd	114	115	1	No Gas	0.039	ug/l	166.31
Cd	114	115	3	He	0.028	ug/l	71.37
Sn	118	115	1	No Gas	-0.235	ug/l	808.43
Sn	118	115	3	He	-0.197	ug/l	192.23
Sb	121	115	1	No Gas	0.016	ug/l	349.37
Sb	121	115	3	He	0.015	ug/l	88.68
Sb	123	115	1	No Gas	0.016	ug/l	270.36
Sb	123	115	3	He	0.016	ug/l	72.68
Ba	135	115	1	No Gas	2.371	ug/l	5986.12
Ba	137	115	1	No Gas	2.336	ug/l	10153.59
La	139	115	3	He	0.000	ug/l	14.45
Ce	140	115	3	He	0.002	ug/l	28.89
Hg	201	209	1	No Gas	0.002	ug/l	17.33
Hg	202	209	1	No Gas	0.054	ug/l	266.28
Hg	202	209	3	He	0.046	ug/l	109.98
Tl	203	209	3	He	0.013	ug/l	441.52
Tl	205	209	1	No Gas	0.009	ug/l	1884.59
Tl	205	209	3	He	0.014	ug/l	1031.79
[Pb]	206	209	1	No Gas	-0.141	ug/l	2693.63
[Pb]	207	209	1	No Gas	-0.126	ug/l	2202.42
Pb	208	209	1	No Gas	-0.128	ug/l	10391.67
Th	232	209	3	He	-0.001	ug/l	123.38
U	238	209	1	No Gas	0.007	ug/l	284.28

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2466707.09	96.4
Sc	45	2	H2	1448607.73	106.8
Sc	45	3	He	151340.21	94.9
Ge	72	1	No Gas	652828.30	97.5
Ge	72	2	H2	489142.82	107.4
Ge	72	3	He	106120.45	104.2
In	115	1	No Gas	4785405.42	104.9
In	115	3	He	1108577.38	104.4
Tb	159	1	No Gas	7049773.54	111.1
Tb	159	3	He	3049737.91	115.0
Ho	165	1	No Gas	7009951.22	112.1
Ho	165	3	He	3084854.04	116.8
Lu	175	1	No Gas	7126816.25	112.4
Lu	175	3	He	2547409.53	115.1
Bi	209	1	No Gas	4895948.71	112.0
Bi	209	3	He	2292118.27	114.2

ICPMS207-B Analytical Data

Sample Name B22011446-032B
File Name 065SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:04:43
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	0.371	ug/l	9129.73
Be	9	45	1	No Gas	-0.119	ug/l	84.98
B	11	45	1	No Gas	34.256	ug/l	33915.78
Na	23	45	3	He	38140.298	ug/l	11841132.32
Mg	24	45	3	He	17292.105	ug/l	3024701.98
Al	27	45	1	No Gas	-0.624	ug/l	24448.92
Si	28	45	2	H2	18120.269	ug/l	17236965.56
K	39	72	3	He	965.174	ug/l	279690.04
Ca	40	72	2	H2	15834.329	ug/l	59230498.83
Ti	47	72	1	No Gas	1.280	ug/l	1249.65
V	51	72	1	No Gas	9.718	ug/l	14020.66
V	51	72	3	He	-4.869	ug/l	26406.12
Cr	52	72	1	No Gas	-2.187	ug/l	66546.51
Cr	52	72	3	He	0.323	ug/l	1313.40
Mn	55	72	1	No Gas	381.962	ug/l	4572024.51
Mn	55	72	3	He	372.455	ug/l	451741.22
Fe	56	72	2	H2	121.076	ug/l	857984.14
Fe	56	72	3	He	118.592	ug/l	198908.84
Co	59	72	1	No Gas	0.242	ug/l	2824.68
Ni	60	72	1	No Gas	0.228	ug/l	994.73
Ni	60	72	3	He	0.220	ug/l	243.34
Cu	63	72	1	No Gas	0.547	ug/l	4331.73
Cu	63	72	3	He	0.514	ug/l	1247.14
Cu	65	72	1	No Gas	0.510	ug/l	1715.46
Zn	66	72	1	No Gas	9.724	ug/l	17137.23
Zn	66	72	3	He	9.794	ug/l	4136.17
As	75	72	1	No Gas	1.282	ug/l	21157.88
As	75	72	3	He	0.017	ug/l	434.07
Se	78	72	2	H2	0.019	ug/l	38.00
Br	79	72	1	No Gas	7.013	ug/l	37941.08
Br	79	72	2	H2	5.854	ug/l	21623.34
Se	82	72	1	No Gas	-0.237	ug/l	455.14
Kr	84	72	1	No Gas		ug/l	29918.38
Sr	88	72	1	No Gas	172.273	ug/l	2655902.48
Sr	88	72	3	He	163.831	ug/l	308458.42
Mo	95	115	1	No Gas	6.585	ug/l	22962.99
Mo	95	115	3	He	7.022	ug/l	8869.48
Mo	98	115	1	No Gas	6.597	ug/l	37440.36
Ag	107	115	1	No Gas	-0.065	ug/l	69.36
Ag	109	115	1	No Gas	-0.067	ug/l	66.69
Cd	111	115	1	No Gas	0.011	ug/l	16.49

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.002	ug/l	5.22
Cd	114	115	1	No Gas	0.015	ug/l	16.19
Cd	114	115	3	He	-0.005	ug/l	2.33
Sn	118	115	1	No Gas	0.637	ug/l	5842.98
Sn	118	115	3	He	0.984	ug/l	2070.16
Sb	121	115	1	No Gas	0.034	ug/l	431.39
Sb	121	115	3	He	0.035	ug/l	120.68
Sb	123	115	1	No Gas	0.036	ug/l	348.37
Sb	123	115	3	He	0.039	ug/l	104.68
Ba	135	115	1	No Gas	2.419	ug/l	4485.18
Ba	137	115	1	No Gas	2.593	ug/l	8296.09
La	139	115	3	He	0.002	ug/l	27.78
Ce	140	115	3	He	0.007	ug/l	78.89
Hg	201	209	1	No Gas	0.011	ug/l	27.99
Hg	202	209	1	No Gas	0.076	ug/l	291.61
Hg	202	209	3	He	0.056	ug/l	115.31
Tl	203	209	3	He	0.063	ug/l	611.60
Tl	205	209	1	No Gas	0.064	ug/l	2650.28
Tl	205	209	3	He	0.069	ug/l	1516.70
[Pb]	206	209	1	No Gas	-0.054	ug/l	2810.32
[Pb]	207	209	1	No Gas	-0.038	ug/l	2320.22
Pb	208	209	1	No Gas	-0.033	ug/l	11085.25
Th	232	209	3	He	0.042	ug/l	807.02
U	238	209	1	No Gas	0.007	ug/l	241.95

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1629448.32	63.7
Sc	45	2	H2	1019828.54	75.2
Sc	45	3	He	102777.90	64.4
Ge	72	1	No Gas	488924.55	73.0
Ge	72	2	H2	378868.80	83.2
Ge	72	3	He	75900.97	74.5
In	115	1	No Gas	3573246.57	78.3
In	115	3	He	858271.25	80.8
Tb	159	1	No Gas	5629403.21	88.7
Tb	159	3	He	2494672.48	94.1
Ho	165	1	No Gas	5798538.23	92.7
Ho	165	3	He	2510849.46	95.1
Lu	175	1	No Gas	5947693.21	93.8
Lu	175	3	He	2114950.06	95.5
Bi	209	1	No Gas	3950665.30	90.4
Bi	209	3	He	2010725.77	100.2

ICPMS207-B Analytical Data

Sample Name B22011592-001A
File Name 066SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:10:58
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	-0.694	ug/l	7630.32
Be	9	45	1	No Gas	-0.142	ug/l	65.66
B	11	45	1	No Gas	62.301	ug/l	90208.92
Na	23	45	3	He	43542.529	ug/l	19515545.54
Mg	24	45	3	He	16675.104	ug/l	4211588.75
Al	27	45	1	No Gas	-0.302	ug/l	39704.71
Si	28	45	2	H2	19507.567	ug/l	25631311.27
K	39	72	3	He	1958.441	ug/l	644496.53
Ca	40	72	2	H2	16961.101	ug/l	79237374.58
Ti	47	72	1	No Gas	0.935	ug/l	1293.03
V	51	72	1	No Gas	21.568	ug/l	182398.04
V	51	72	3	He	-4.051	ug/l	37585.80
Cr	52	72	1	No Gas	-5.713	ug/l	46754.97
Cr	52	72	3	He	1.301	ug/l	4220.63
Mn	55	72	1	No Gas	5.941	ug/l	110790.93
Mn	55	72	3	He	6.314	ug/l	10528.00
Fe	56	72	2	H2	1.273	ug/l	26333.45
Fe	56	72	3	He	0.714	ug/l	8546.11
Co	59	72	1	No Gas	0.015	ug/l	758.52
Ni	60	72	1	No Gas	0.924	ug/l	3323.81
Ni	60	72	3	He	0.993	ug/l	1062.27
Cu	63	72	1	No Gas	0.735	ug/l	7162.64
Cu	63	72	3	He	0.732	ug/l	2219.73
Cu	65	72	1	No Gas	0.772	ug/l	3156.95
Zn	66	72	1	No Gas	2.409	ug/l	6007.68
Zn	66	72	3	He	2.136	ug/l	1316.74
As	75	72	1	No Gas	-4.371	ug/l	11079.63
As	75	72	3	He	-0.782	ug/l	139.60
Se	78	72	2	H2	0.438	ug/l	188.00
Br	79	72	1	No Gas	24.811	ug/l	166590.83
Br	79	72	2	H2	23.026	ug/l	98440.62
Se	82	72	1	No Gas	0.391	ug/l	725.28
Kr	84	72	1	No Gas		ug/l	34759.61
Sr	88	72	1	No Gas	147.688	ug/l	3051289.97
Sr	88	72	3	He	136.332	ug/l	347400.29
Mo	95	115	1	No Gas	0.208	ug/l	998.93
Mo	95	115	3	He	0.251	ug/l	406.67
Mo	98	115	1	No Gas	0.210	ug/l	1620.38
Ag	107	115	1	No Gas	-0.062	ug/l	117.38
Ag	109	115	1	No Gas	-0.066	ug/l	103.38
Cd	111	115	1	No Gas	0.030	ug/l	71.48

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.039	ug/l	38.44
Cd	114	115	1	No Gas	0.043	ug/l	185.12
Cd	114	115	3	He	0.038	ug/l	89.80
Sn	118	115	1	No Gas	-0.242	ug/l	735.23
Sn	118	115	3	He	-0.212	ug/l	155.56
Sb	121	115	1	No Gas	0.009	ug/l	257.03
Sb	121	115	3	He	0.012	ug/l	76.01
Sb	123	115	1	No Gas	0.011	ug/l	207.69
Sb	123	115	3	He	0.014	ug/l	64.01
Ba	135	115	1	No Gas	7.284	ug/l	18012.73
Ba	137	115	1	No Gas	7.519	ug/l	31983.41
La	139	115	3	He	0.001	ug/l	21.11
Ce	140	115	3	He	0.001	ug/l	17.78
Hg	201	209	1	No Gas	0.002	ug/l	17.00
Hg	202	209	1	No Gas	0.005	ug/l	44.99
Hg	202	209	3	He	0.005	ug/l	19.00
Tl	203	209	3	He	0.009	ug/l	416.84
Tl	205	209	1	No Gas	0.003	ug/l	1740.13
Tl	205	209	3	He	0.010	ug/l	968.43
[Pb]	206	209	1	No Gas	-0.161	ug/l	2540.26
[Pb]	207	209	1	No Gas	-0.134	ug/l	2165.75
Pb	208	209	1	No Gas	-0.142	ug/l	10031.54
Th	232	209	3	He	-0.001	ug/l	121.38
U	238	209	1	No Gas	0.025	ug/l	974.51

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2383118.56	93.1
Sc	45	2	H2	1408634.60	103.9
Sc	45	3	He	148412.49	93.0
Ge	72	1	No Gas	652479.50	97.4
Ge	72	2	H2	473379.48	103.9
Ge	72	3	He	102737.53	100.8
In	115	1	No Gas	4690933.14	102.8
In	115	3	He	1079645.31	101.7
Tb	159	1	No Gas	7029881.25	110.8
Tb	159	3	He	3001479.81	113.2
Ho	165	1	No Gas	6903231.89	110.4
Ho	165	3	He	3008316.65	113.9
Lu	175	1	No Gas	7099143.48	111.9
Lu	175	3	He	2561810.78	115.7
Bi	209	1	No Gas	4953545.35	113.3
Bi	209	3	He	2275752.45	113.4

ICPMS207-B Analytical Data

Sample Name B22011592-001B
File Name 067SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:17:11
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	0.739	ug/l	10409.74
Be	9	45	1	No Gas	-0.116	ug/l	89.98
B	11	45	1	No Gas	63.876	ug/l	62027.82
Na	23	45	3	He	43974.334	ug/l	13414696.05
Mg	24	45	3	He	15967.612	ug/l	2744589.15
Al	27	45	1	No Gas	0.889	ug/l	35262.82
Si	28	45	2	H2	20495.620	ug/l	19000700.84
K	39	72	3	He	1789.083	ug/l	436893.61
Ca	40	72	2	H2	16080.466	ug/l	58890245.67
Ti	47	72	1	No Gas	1.220	ug/l	1184.58
V	51	72	1	No Gas	21.577	ug/l	135690.66
V	51	72	3	He	7.860	ug/l	47046.50
Cr	52	72	1	No Gas	-0.842	ug/l	77643.00
Cr	52	72	3	He	1.732	ug/l	3860.53
Mn	55	72	1	No Gas	14.265	ug/l	179939.74
Mn	55	72	3	He	13.909	ug/l	16766.53
Fe	56	72	2	H2	19.366	ug/l	144383.55
Fe	56	72	3	He	18.178	ug/l	34388.27
Co	59	72	1	No Gas	0.127	ug/l	1666.80
Ni	60	72	1	No Gas	0.992	ug/l	2595.10
Ni	60	72	3	He	1.088	ug/l	841.14
Cu	63	72	1	No Gas	1.063	ug/l	7012.51
Cu	63	72	3	He	1.067	ug/l	2215.73
Cu	65	72	1	No Gas	1.082	ug/l	3082.90
Zn	66	72	1	No Gas	3.804	ug/l	6818.48
Zn	66	72	3	He	3.658	ug/l	1580.10
As	75	72	1	No Gas	-3.880	ug/l	9204.77
As	75	72	3	He	-0.088	ug/l	385.67
Se	78	72	2	H2	0.545	ug/l	175.67
Br	79	72	1	No Gas	8.833	ug/l	46172.39
Br	79	72	2	H2	7.836	ug/l	27634.89
Se	82	72	1	No Gas	0.568	ug/l	557.54
Kr	84	72	1	No Gas		ug/l	27151.72
Sr	88	72	1	No Gas	151.767	ug/l	2312264.26
Sr	88	72	3	He	141.663	ug/l	263170.73
Mo	95	115	1	No Gas	0.294	ug/l	1067.83
Mo	95	115	3	He	0.308	ug/l	390.01
Mo	98	115	1	No Gas	0.298	ug/l	1741.85
Ag	107	115	1	No Gas	-0.062	ug/l	92.70
Ag	109	115	1	No Gas	-0.066	ug/l	82.70
Cd	111	115	1	No Gas	0.024	ug/l	40.83

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.011	ug/l	11.33
Cd	114	115	1	No Gas	0.026	ug/l	64.60
Cd	114	115	3	He	0.010	ug/l	25.58
Sn	118	115	1	No Gas	0.682	ug/l	6222.42
Sn	118	115	3	He	1.027	ug/l	2110.17
Sb	121	115	1	No Gas	0.026	ug/l	356.37
Sb	121	115	3	He	0.034	ug/l	116.68
Sb	123	115	1	No Gas	0.027	ug/l	282.03
Sb	123	115	3	He	0.031	ug/l	85.68
Ba	135	115	1	No Gas	7.434	ug/l	14026.04
Ba	137	115	1	No Gas	7.753	ug/l	25163.03
La	139	115	3	He	0.003	ug/l	37.78
Ce	140	115	3	He	0.005	ug/l	61.11
Hg	201	209	1	No Gas	0.007	ug/l	22.00
Hg	202	209	1	No Gas	0.012	ug/l	60.99
Hg	202	209	3	He	0.015	ug/l	36.66
Tl	203	209	3	He	0.081	ug/l	691.63
Tl	205	209	1	No Gas	0.062	ug/l	2698.08
Tl	205	209	3	He	0.084	ug/l	1688.79
[Pb]	206	209	1	No Gas	-0.027	ug/l	3095.94
[Pb]	207	209	1	No Gas	-0.009	ug/l	2588.05
Pb	208	209	1	No Gas	-0.014	ug/l	12041.11
Th	232	209	3	He	0.037	ug/l	720.31
U	238	209	1	No Gas	0.027	ug/l	847.19

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1598814.87	62.5
Sc	45	2	H2	993935.34	73.3
Sc	45	3	He	101016.37	63.3
Ge	72	1	No Gas	481164.20	71.8
Ge	72	2	H2	370959.83	81.4
Ge	72	3	He	74945.02	73.6
In	115	1	No Gas	3579555.21	78.4
In	115	3	He	846285.87	79.7
Tb	159	1	No Gas	5681274.77	89.6
Tb	159	3	He	2536276.11	95.7
Ho	165	1	No Gas	5630237.18	90.0
Ho	165	3	He	2548584.90	96.5
Lu	175	1	No Gas	5688730.46	89.7
Lu	175	3	He	2076311.00	93.8
Bi	209	1	No Gas	4039153.08	92.4
Bi	209	3	He	2011799.72	100.3

ICPMS207-B Analytical Data

Sample Name B22011592-001BDIL
File Name 068ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:23:25
Sample Type AIRRef
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	1.284	ug/l	9068.34
Be	9	45	1	No Gas	-0.643	ug/l	70.99
B	11	45	1	No Gas	73.219	ug/l	15645.73
Na	23	45	3	He	45841.933	ug/l	2992794.61
Mg	24	45	3	He	16898.986	ug/l	618265.20
Al	27	45	1	No Gas	-3.945	ug/l	24232.01
Si	28	45	2	H2	20166.717	ug/l	4012234.76
K	39	72	3	He	1288.560	ug/l	146036.12
Ca	40	72	2	H2	16500.624	ug/l	12809637.63
Ti	47	72	1	No Gas	0.752	ug/l	338.68
V	51	72	1	No Gas	77.237	ug/l	77902.86
V	51	72	3	He	-35.250	ug/l	23790.48
Cr	52	72	1	No Gas	-22.066	ug/l	48985.05
Cr	52	72	3	He	1.755	ug/l	1425.64
Mn	55	72	1	No Gas	13.360	ug/l	45917.54
Mn	55	72	3	He	14.375	ug/l	3771.07
Fe	56	72	2	H2	20.861	ug/l	42634.67
Fe	56	72	3	He	19.457	ug/l	12020.37
Co	59	72	1	No Gas	0.131	ug/l	708.62
Ni	60	72	1	No Gas	0.785	ug/l	888.27
Ni	60	72	3	He	1.686	ug/l	341.12
Cu	63	72	1	No Gas	1.606	ug/l	3289.70
Cu	63	72	3	He	2.065	ug/l	1111.82
Cu	65	72	1	No Gas	1.828	ug/l	1427.32
Zn	66	72	1	No Gas	11.671	ug/l	4583.39
Zn	66	72	3	He	12.815	ug/l	1202.28
As	75	72	1	No Gas	-18.422	ug/l	10287.99
As	75	72	3	He	-1.932	ug/l	279.00
Se	78	72	2	H2	0.336	ug/l	52.45
Br	79	72	1	No Gas	317.756	ug/l	328990.13
Br	79	72	2	H2	306.321	ug/l	212581.53
Se	82	72	1	No Gas	1.686	ug/l	561.81
Kr	84	72	1	No Gas		ug/l	16443.55
Sr	88	72	1	No Gas	143.609	ug/l	465915.27
Sr	88	72	3	He	141.948	ug/l	55894.07
Mo	95	115	1	No Gas	0.345	ug/l	297.78
Mo	95	115	3	He	0.448	ug/l	125.56
Mo	98	115	1	No Gas	0.301	ug/l	411.06
Ag	107	115	1	No Gas	-0.323	ug/l	77.37
Ag	109	115	1	No Gas	-0.340	ug/l	68.03
Cd	111	115	1	No Gas	0.113	ug/l	43.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.048	ug/l	11.11
Cd	114	115	1	No Gas	0.119	ug/l	59.80
Cd	114	115	3	He	0.026	ug/l	19.76
Sn	118	115	1	No Gas	0.916	ug/l	3513.49
Sn	118	115	3	He	1.422	ug/l	980.04
Sb	121	115	1	No Gas	0.045	ug/l	213.02
Sb	121	115	3	He	0.059	ug/l	62.68
Sb	123	115	1	No Gas	0.053	ug/l	176.02
Sb	123	115	3	He	0.087	ug/l	61.68
Ba	135	115	1	No Gas	8.095	ug/l	3400.35
Ba	137	115	1	No Gas	8.076	ug/l	5839.66
La	139	115	3	He	0.006	ug/l	23.33
Ce	140	115	3	He	0.017	ug/l	42.22
Hg	201	209	1	No Gas	0.007	ug/l	14.67
Hg	202	209	1	No Gas	0.048	ug/l	58.99
Hg	202	209	3	He	0.028	ug/l	20.33
Tl	203	209	3	He	0.136	ug/l	484.20
Tl	205	209	1	No Gas	0.109	ug/l	2029.06
Tl	205	209	3	He	0.174	ug/l	1221.88
[Pb]	206	209	1	No Gas	-0.310	ug/l	3132.61
[Pb]	207	209	1	No Gas	-0.270	ug/l	2543.60
Pb	208	209	1	No Gas	-0.271	ug/l	11992.20
Th	232	209	3	He	0.017	ug/l	197.41
U	238	209	1	No Gas	0.029	ug/l	226.62

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1679731.84	65.6
Sc	45	2	H2	1065084.24	78.5
Sc	45	3	He	107193.09	67.2
Ge	72	1	No Gas	512303.19	76.5
Ge	72	2	H2	390713.64	85.8
Ge	72	3	He	79320.10	77.9
In	115	1	No Gas	3973221.91	87.1
In	115	3	He	903078.12	85.1
Tb	159	1	No Gas	6164061.24	97.2
Tb	159	3	He	2694032.14	101.6
Ho	165	1	No Gas	6171801.85	98.7
Ho	165	3	He	2692725.73	102.0
Lu	175	1	No Gas	6340817.26	100.0
Lu	175	3	He	2194134.89	99.1
Bi	209	1	No Gas	4475197.42	102.4
Bi	209	3	He	2165623.88	107.9

ICPMS207-B Analytical Data

Sample Name CCV
File Name 069_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:29:38
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	326.788	ug/l	1324392.82
Be	9	45	1	No Gas	34.460	ug/l	65095.06
B	11	45	1	No Gas	38.934	ug/l	41581.96
Na	23	45	3	He	12553.469	ug/l	4523543.58
Mg	24	45	3	He	12171.241	ug/l	2459268.63
Al	27	45	1	No Gas	42.244	ug/l	366280.43
Si	28	45	2	H2	205.879	ug/l	225387.28
K	39	72	3	He	10635.145	ug/l	2439543.40
Ca	40	72	2	H2	11311.516	ug/l	45950733.70
Ti	47	72	1	No Gas	45.273	ug/l	40742.40
V	51	72	1	No Gas	53.353	ug/l	497924.74
V	51	72	3	He	42.034	ug/l	116584.05
Cr	52	72	1	No Gas	45.908	ug/l	542799.21
Cr	52	72	3	He	52.804	ug/l	109233.45
Mn	55	72	1	No Gas	52.572	ug/l	698525.19
Mn	55	72	3	He	53.952	ug/l	72930.12
Fe	56	72	2	H2	1320.375	ug/l	10023458.31
Fe	56	72	3	He	1285.139	ug/l	2342108.15
Co	59	72	1	No Gas	50.228	ug/l	547758.95
Ni	60	72	1	No Gas	51.150	ug/l	119625.33
Ni	60	72	3	He	56.560	ug/l	44222.24
Cu	63	72	1	No Gas	52.371	ug/l	307395.19
Cu	63	72	3	He	58.951	ug/l	118835.35
Cu	65	72	1	No Gas	54.858	ug/l	147890.73
Zn	66	72	1	No Gas	60.200	ug/l	113828.03
Zn	66	72	3	He	60.061	ug/l	27711.94
As	75	72	1	No Gas	57.227	ug/l	161100.77
As	75	72	3	He	56.507	ug/l	26544.62
Se	78	72	2	H2	57.188	ug/l	16732.60
Br	79	72	1	No Gas	1.877	ug/l	14052.40
Br	79	72	2	H2	1.640	ug/l	8242.69
Se	82	72	1	No Gas	58.579	ug/l	8937.20
Kr	84	72	1	No Gas		ug/l	19991.03
Sr	88	72	1	No Gas	60.446	ug/l	1016623.08
Sr	88	72	3	He	58.994	ug/l	123618.78
Mo	95	115	1	No Gas	48.133	ug/l	188041.49
Mo	95	115	3	He	53.760	ug/l	74439.59
Mo	98	115	1	No Gas	48.349	ug/l	307473.48
Ag	107	115	1	No Gas	20.167	ug/l	209642.99
Ag	109	115	1	No Gas	20.238	ug/l	201462.70
Cd	111	115	1	No Gas	55.715	ug/l	121225.56

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	58.663	ug/l	43394.69
Cd	114	115	1	No Gas	54.136	ug/l	275607.59
Cd	114	115	3	He	61.350	ug/l	107924.63
Sn	118	115	1	No Gas	49.804	ug/l	337844.21
Sn	118	115	3	He	55.725	ug/l	99929.03
Sb	121	115	1	No Gas	53.601	ug/l	588011.16
Sb	121	115	3	He	56.908	ug/l	167529.13
Sb	123	115	1	No Gas	53.521	ug/l	451808.75
Sb	123	115	3	He	57.111	ug/l	132560.36
Ba	135	115	1	No Gas	54.442	ug/l	112982.94
Ba	137	115	1	No Gas	55.728	ug/l	198903.69
La	139	115	3	He	53.697	ug/l	546716.00
Ce	140	115	3	He	54.334	ug/l	603678.97
Hg	201	209	1	No Gas	0.933	ug/l	1744.10
Hg	202	209	1	No Gas	0.918	ug/l	3855.46
Hg	202	209	3	He	0.993	ug/l	2053.08
Tl	203	209	3	He	53.297	ug/l	259113.64
Tl	205	209	1	No Gas	51.564	ug/l	1234327.96
Tl	205	209	3	He	51.754	ug/l	625855.15
[Pb]	206	209	1	No Gas	51.132	ug/l	437140.24
[Pb]	207	209	1	No Gas	52.570	ug/l	389001.24
Pb	208	209	1	No Gas	51.644	ug/l	1753470.56
Th	232	209	3	He	52.243	ug/l	895147.40
U	238	209	1	No Gas	54.857	ug/l	1842250.09

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1743752.29	68.1
Sc	45	2	H2	1137379.93	83.9
Sc	45	3	He	118674.62	74.4
Ge	72	1	No Gas	531428.32	79.3
Ge	72	2	H2	411230.85	90.3
Ge	72	3	He	84479.15	82.9
In	115	1	No Gas	3938376.77	86.3
In	115	3	He	941522.21	88.7
Tb	159	1	No Gas	6165492.31	97.2
Tb	159	3	He	2743110.46	103.5
Ho	165	1	No Gas	6096935.05	97.5
Ho	165	3	He	2780347.23	105.3
Lu	175	1	No Gas	6279555.90	99.0
Lu	175	3	He	2270129.11	102.5
Bi	209	1	No Gas	4495905.36	102.8
Bi	209	3	He	2162318.08	107.8

ICPMS207-B Analytical Data

Sample Name CCB
File Name 070_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:35:52
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	0.326	ug/l	10104.08
Be	9	45	1	No Gas	-0.118	ug/l	97.65
B	11	45	1	No Gas	1.967	ug/l	3128.25
Na	23	45	3	He	106.821	ug/l	69663.55
Mg	24	45	3	He	11.322	ug/l	4471.83
Al	27	45	1	No Gas	-2.416	ug/l	12755.48
Si	28	45	2	H2	0.025	ug/l	6893.70
K	39	72	3	He	-136.793	ug/l	67799.45
Ca	40	72	2	H2	-5.636	ug/l	80876.55
Ti	47	72	1	No Gas	-0.098	ug/l	128.46
V	51	72	1	No Gas	8.401	ug/l	1927.84
V	51	72	3	He	-9.514	ug/l	20477.73
Cr	52	72	1	No Gas	-4.565	ug/l	49198.23
Cr	52	72	3	He	0.026	ug/l	840.03
Mn	55	72	1	No Gas	-0.321	ug/l	8582.22
Mn	55	72	3	He	-0.018	ug/l	110.31
Fe	56	72	2	H2	2.632	ug/l	32743.16
Fe	56	72	3	He	-1.110	ug/l	3660.82
Co	59	72	1	No Gas	-0.018	ug/l	252.84
Ni	60	72	1	No Gas	-0.103	ug/l	312.72
Ni	60	72	3	He	-0.054	ug/l	56.66
Cu	63	72	1	No Gas	-0.055	ug/l	1210.54
Cu	63	72	3	He	0.012	ug/l	374.26
Cu	65	72	1	No Gas	0.006	ug/l	513.55
Zn	66	72	1	No Gas	0.048	ug/l	447.44
Zn	66	72	3	He	-0.025	ug/l	87.78
As	75	72	1	No Gas	-3.890	ug/l	10128.16
As	75	72	3	He	-0.403	ug/l	285.33
Se	78	72	2	H2	-0.010	ug/l	32.22
Br	79	72	1	No Gas	0.931	ug/l	9064.94
Br	79	72	2	H2	0.795	ug/l	5127.43
Se	82	72	1	No Gas	-0.422	ug/l	472.07
Kr	84	72	1	No Gas		ug/l	13945.87
Sr	88	72	1	No Gas	0.000	ug/l	212.92
Sr	88	72	3	He	0.007	ug/l	56.67
Mo	95	115	1	No Gas	0.020	ug/l	108.89
Mo	95	115	3	He	0.015	ug/l	27.78
Mo	98	115	1	No Gas	0.028	ug/l	212.23
Ag	107	115	1	No Gas	0.003	ug/l	809.02
Ag	109	115	1	No Gas	0.000	ug/l	763.66
Cd	111	115	1	No Gas	0.009	ug/l	13.37

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	9.55
Cd	114	115	1	No Gas	0.005	ug/l	-37.00
Cd	114	115	3	He	0.004	ug/l	19.28
Sn	118	115	1	No Gas	-0.066	ug/l	1866.44
Sn	118	115	3	He	-0.011	ug/l	500.01
Sb	121	115	1	No Gas	0.068	ug/l	884.78
Sb	121	115	3	He	0.046	ug/l	168.69
Sb	123	115	1	No Gas	0.067	ug/l	677.42
Sb	123	115	3	He	0.052	ug/l	146.68
Ba	135	115	1	No Gas	0.002	ug/l	16.63
Ba	137	115	1	No Gas	-0.002	ug/l	19.96
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	0.006	ug/l	25.00
Hg	202	209	1	No Gas	0.008	ug/l	55.99
Hg	202	209	3	He	0.010	ug/l	29.99
Tl	203	209	3	He	0.187	ug/l	1282.58
Tl	205	209	1	No Gas	0.152	ug/l	5338.89
Tl	205	209	3	He	0.189	ug/l	3144.97
[Pb]	206	209	1	No Gas	-0.168	ug/l	2333.55
[Pb]	207	209	1	No Gas	-0.128	ug/l	2089.07
Pb	208	209	1	No Gas	-0.148	ug/l	9223.52
Th	232	209	3	He	0.075	ug/l	1450.00
U	238	209	1	No Gas	0.004	ug/l	159.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1816410.60	71.0
Sc	45	2	H2	1105817.95	81.6
Sc	45	3	He	114781.93	71.9
Ge	72	1	No Gas	530338.50	79.2
Ge	72	2	H2	406487.28	89.2
Ge	72	3	He	83353.68	81.8
In	115	1	No Gas	4077258.95	89.4
In	115	3	He	950943.13	89.6
Tb	159	1	No Gas	6234962.92	98.3
Tb	159	3	He	2725667.60	102.8
Ho	165	1	No Gas	6050205.67	96.7
Ho	165	3	He	2779803.77	105.3
Lu	175	1	No Gas	6348757.28	100.1
Lu	175	3	He	2282078.30	103.1
Bi	209	1	No Gas	4670303.11	106.8
Bi	209	3	He	2204492.69	109.9

ICPMS207-B Analytical Data

Sample Name B22011592-001BPDS1
File Name 071ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:42:07
Sample Type AIRRef
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	6136.188	ug/l	4000827.74
Be	9	45	1	No Gas	156.409	ug/l	47714.79
B	11	45	1	No Gas	516.647	ug/l	87686.54
Na	23	45	3	He	450168.899	ug/l	26727037.93
Mg	24	45	3	He	311958.354	ug/l	10444342.31
Al	27	45	1	No Gas	195.242	ug/l	275137.69
Si	28	45	2	H2	97292.953	ug/l	17643163.36
K	39	72	3	He	205252.662	ug/l	8069118.63
Ca	40	72	2	H2	279958.506	ug/l	202735209.73
Ti	47	72	1	No Gas	212.884	ug/l	33936.60
V	51	72	1	No Gas	214.564	ug/l	349892.35
V	51	72	3	He	294.412	ug/l	130652.10
Cr	52	72	1	No Gas	217.741	ug/l	459321.77
Cr	52	72	3	He	236.387	ug/l	86474.11
Mn	55	72	1	No Gas	295.389	ug/l	691844.60
Mn	55	72	3	He	294.572	ug/l	70347.54
Fe	56	72	2	H2	23812.193	ug/l	32243325.94
Fe	56	72	3	He	24166.754	ug/l	7768843.41
Co	59	72	1	No Gas	213.591	ug/l	411850.31
Ni	60	72	1	No Gas	220.752	ug/l	91421.27
Ni	60	72	3	He	245.170	ug/l	33880.43
Cu	63	72	1	No Gas	221.959	ug/l	230671.28
Cu	63	72	3	He	254.270	ug/l	90597.11
Cu	65	72	1	No Gas	233.541	ug/l	111413.85
Zn	66	72	1	No Gas	270.577	ug/l	90491.17
Zn	66	72	3	He	260.156	ug/l	21218.83
As	75	72	1	No Gas	268.039	ug/l	134531.41
As	75	72	3	He	247.240	ug/l	20571.33
Se	78	72	2	H2	246.032	ug/l	12859.24
Br	79	72	1	No Gas	41.199	ug/l	42224.45
Br	79	72	2	H2	35.694	ug/l	25095.30
Se	82	72	1	No Gas	256.468	ug/l	6977.07
Kr	84	72	1	No Gas		ug/l	30158.37
Sr	88	72	1	No Gas	974.546	ug/l	2896066.35
Sr	88	72	3	He	917.135	ug/l	339482.35
Mo	95	115	1	No Gas	229.813	ug/l	150914.21
Mo	95	115	3	He	248.129	ug/l	59606.32
Mo	98	115	1	No Gas	226.753	ug/l	242260.94
Ag	107	115	1	No Gas	94.789	ug/l	165677.36
Ag	109	115	1	No Gas	96.006	ug/l	160690.52
Cd	111	115	1	No Gas	255.838	ug/l	93542.20

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	262.402	ug/l	33680.95
Cd	114	115	1	No Gas	247.600	ug/l	211822.80
Cd	114	115	3	He	271.968	ug/l	83018.82
Sn	118	115	1	No Gas	245.990	ug/l	280484.25
Sn	118	115	3	He	267.875	ug/l	83381.51
Sb	121	115	1	No Gas	248.361	ug/l	457915.61
Sb	121	115	3	He	257.808	ug/l	131693.44
Sb	123	115	1	No Gas	249.581	ug/l	354041.71
Sb	123	115	3	He	256.643	ug/l	103356.21
Ba	135	115	1	No Gas	296.596	ug/l	103425.03
Ba	137	115	1	No Gas	296.833	ug/l	177965.49
La	139	115	3	He	0.028	ug/l	60.00
Ce	140	115	3	He	265.313	ug/l	511358.37
Hg	201	209	1	No Gas	4.818	ug/l	1551.11
Hg	202	209	1	No Gas	4.934	ug/l	3567.77
Hg	202	209	3	He	4.987	ug/l	1830.09
Tl	203	209	3	He	249.123	ug/l	214979.30
Tl	205	209	1	No Gas	243.742	ug/l	1005230.04
Tl	205	209	3	He	236.158	ug/l	507123.80
[Pb]	206	209	1	No Gas	235.966	ug/l	347868.37
[Pb]	207	209	1	No Gas	239.721	ug/l	305686.11
Pb	208	209	1	No Gas	239.674	ug/l	1402784.31
Th	232	209	3	He	245.328	ug/l	746350.03
U	238	209	1	No Gas	256.797	ug/l	1485534.14

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1413245.78	55.2
Sc	45	2	H2	972158.31	71.7
Sc	45	3	He	98420.13	61.7
Ge	72	1	No Gas	471019.23	70.3
Ge	72	2	H2	367191.46	80.6
Ge	72	3	He	74614.39	73.2
In	115	1	No Gas	3310271.52	72.5
In	115	3	He	816702.27	76.9
Tb	159	1	No Gas	5239179.05	82.6
Tb	159	3	He	2393355.61	90.3
Ho	165	1	No Gas	5330256.84	85.2
Ho	165	3	He	2470465.43	93.6
Lu	175	1	No Gas	5487803.34	86.5
Lu	175	3	He	2054348.50	92.8
Bi	209	1	No Gas	3876739.62	88.7
Bi	209	3	He	1919222.09	95.7

ICPMS207-B Analytical Data

Sample Name B22011592-001BMS4
File Name 072MS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:48:21
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	52.610	ug/l	193023.25
Be	9	45	1	No Gas	33.013	ug/l	54664.64
B	11	45	1	No Gas	140.769	ug/l	129533.06
Na	23	45	3	He	48051.480	ug/l	14718389.92
Mg	24	45	3	He	21281.350	ug/l	3673012.22
Al	27	45	1	No Gas	414.537	ug/l	2905486.45
Si	28	45	2	H2	20327.153	ug/l	19088660.52
K	39	72	3	He	5761.926	ug/l	1236775.76
Ca	40	72	2	H2	20007.369	ug/l	73566249.49
Ti	47	72	1	No Gas	84.231	ug/l	68098.84
V	51	72	1	No Gas	98.574	ug/l	906076.61
V	51	72	3	He	104.330	ug/l	210250.34
Cr	52	72	1	No Gas	91.787	ug/l	891810.76
Cr	52	72	3	He	95.779	ug/l	178722.04
Mn	55	72	1	No Gas	504.482	ug/l	5927711.76
Mn	55	72	3	He	493.181	ug/l	602328.38
Fe	56	72	2	H2	511.709	ug/l	3526366.87
Fe	56	72	3	He	500.473	ug/l	828477.46
Co	59	72	1	No Gas	92.660	ug/l	909649.35
Ni	60	72	1	No Gas	94.588	ug/l	199010.79
Ni	60	72	3	He	102.689	ug/l	72586.31
Cu	63	72	1	No Gas	97.298	ug/l	512924.01
Cu	63	72	3	He	108.436	ug/l	197528.62
Cu	65	72	1	No Gas	100.787	ug/l	244087.40
Zn	66	72	1	No Gas	113.823	ug/l	193457.93
Zn	66	72	3	He	108.458	ug/l	45204.42
As	75	72	1	No Gas	107.390	ug/l	256675.32
As	75	72	3	He	102.229	ug/l	43103.79
Se	78	72	2	H2	104.927	ug/l	27786.35
Br	79	72	1	No Gas	7.328	ug/l	38681.88
Br	79	72	2	H2	6.317	ug/l	22782.87
Se	82	72	1	No Gas	110.395	ug/l	14727.85
Kr	84	72	1	No Gas		ug/l	38395.19
Sr	88	72	1	No Gas	269.882	ug/l	4085278.98
Sr	88	72	3	He	246.127	ug/l	466571.55
Mo	95	115	1	No Gas	93.847	ug/l	327341.59
Mo	95	115	3	He	99.899	ug/l	125603.05
Mo	98	115	1	No Gas	92.875	ug/l	527749.64
Ag	107	115	1	No Gas	9.463	ug/l	88235.55
Ag	109	115	1	No Gas	9.439	ug/l	84265.16
Cd	111	115	1	No Gas	52.777	ug/l	102577.22

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.792	ug/l	36138.18
Cd	114	115	1	No Gas	51.397	ug/l	233738.66
Cd	114	115	3	He	55.979	ug/l	89433.75
Sn	118	115	1	No Gas	102.493	ug/l	619187.32
Sn	118	115	3	He	107.911	ug/l	175328.28
Sb	121	115	1	No Gas	106.205	ug/l	1040441.62
Sb	121	115	3	He	107.555	ug/l	287526.71
Sb	123	115	1	No Gas	107.418	ug/l	810006.28
Sb	123	115	3	He	110.337	ug/l	232559.43
Ba	135	115	1	No Gas	107.960	ug/l	200170.33
Ba	137	115	1	No Gas	108.876	ug/l	346751.59
La	139	115	3	He	108.883	ug/l	1006689.86
Ce	140	115	3	He	110.777	ug/l	1117562.94
Hg	201	209	1	No Gas	0.017	ug/l	40.66
Hg	202	209	1	No Gas	0.024	ug/l	109.31
Hg	202	209	3	He	0.024	ug/l	52.66
Tl	203	209	3	He	101.646	ug/l	455158.22
Tl	205	209	1	No Gas	100.516	ug/l	2215023.04
Tl	205	209	3	He	98.891	ug/l	1101530.55
[Pb]	206	209	1	No Gas	96.757	ug/l	758947.35
[Pb]	207	209	1	No Gas	97.190	ug/l	659955.93
Pb	208	209	1	No Gas	99.987	ug/l	3114380.88
Th	232	209	3	He	104.071	ug/l	1643384.17
U	238	209	1	No Gas	105.035	ug/l	3248727.61

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1526919.86	59.7
Sc	45	2	H2	1006834.27	74.3
Sc	45	3	He	101444.60	63.6
Ge	72	1	No Gas	478358.12	71.4
Ge	72	2	H2	372659.91	81.8
Ge	72	3	He	76434.01	75.0
In	115	1	No Gas	3519154.37	77.1
In	115	3	He	854877.29	80.5
Tb	159	1	No Gas	5493753.04	86.6
Tb	159	3	He	2513441.66	94.8
Ho	165	1	No Gas	5550101.05	88.7
Ho	165	3	He	2532523.06	95.9
Lu	175	1	No Gas	5784634.49	91.2
Lu	175	3	He	2101380.63	94.9
Bi	209	1	No Gas	4140065.64	94.7
Bi	209	3	He	1993091.86	99.3

ICPMS207-B Analytical Data

Sample Name B22011592-001BMSD4
File Name 073MSD4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 19:54:35
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	54.701	ug/l	193295.96
Be	9	45	1	No Gas	33.617	ug/l	53748.56
B	11	45	1	No Gas	144.749	ug/l	128590.49
Na	23	45	3	He	49809.633	ug/l	14969000.47
Mg	24	45	3	He	21711.524	ug/l	3676805.75
Al	27	45	1	No Gas	416.702	ug/l	2822220.13
Si	28	45	2	H2	20878.293	ug/l	19141401.96
K	39	72	3	He	5948.522	ug/l	1235118.39
Ca	40	72	2	H2	20038.012	ug/l	73070195.96
Ti	47	72	1	No Gas	84.518	ug/l	66510.73
V	51	72	1	No Gas	100.061	ug/l	896464.56
V	51	72	3	He	106.109	ug/l	206676.32
Cr	52	72	1	No Gas	90.141	ug/l	856905.42
Cr	52	72	3	He	97.486	ug/l	176256.87
Mn	55	72	1	No Gas	506.864	ug/l	5812325.76
Mn	55	72	3	He	500.834	ug/l	592797.29
Fe	56	72	2	H2	512.181	ug/l	3502137.48
Fe	56	72	3	He	516.390	ug/l	828344.67
Co	59	72	1	No Gas	93.187	ug/l	892563.36
Ni	60	72	1	No Gas	96.429	ug/l	197912.21
Ni	60	72	3	He	105.708	ug/l	72413.00
Cu	63	72	1	No Gas	99.452	ug/l	511261.96
Cu	63	72	3	He	109.874	ug/l	193964.29
Cu	65	72	1	No Gas	102.596	ug/l	242400.69
Zn	66	72	1	No Gas	114.693	ug/l	190089.69
Zn	66	72	3	He	109.977	ug/l	44431.00
As	75	72	1	No Gas	110.193	ug/l	256352.36
As	75	72	3	He	103.294	ug/l	42205.27
Se	78	72	2	H2	104.409	ug/l	27426.00
Br	79	72	1	No Gas	8.406	ug/l	42741.82
Br	79	72	2	H2	7.596	ug/l	26751.64
Se	82	72	1	No Gas	113.526	ug/l	14764.59
Kr	84	72	1	No Gas		ug/l	37367.63
Sr	88	72	1	No Gas	272.892	ug/l	4030233.10
Sr	88	72	3	He	247.713	ug/l	455060.97
Mo	95	115	1	No Gas	94.000	ug/l	315688.20
Mo	95	115	3	He	101.622	ug/l	125379.53
Mo	98	115	1	No Gas	96.268	ug/l	527065.53
Ag	107	115	1	No Gas	9.635	ug/l	86507.04
Ag	109	115	1	No Gas	9.751	ug/l	83901.61
Cd	111	115	1	No Gas	54.635	ug/l	102297.80

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.049	ug/l	35635.25
Cd	114	115	1	No Gas	53.343	ug/l	233724.85
Cd	114	115	3	He	56.603	ug/l	88749.58
Sn	118	115	1	No Gas	107.260	ug/l	624496.69
Sn	118	115	3	He	108.632	ug/l	173213.27
Sb	121	115	1	No Gas	109.285	ug/l	1031254.60
Sb	121	115	3	He	107.174	ug/l	281176.27
Sb	123	115	1	No Gas	111.816	ug/l	812387.52
Sb	123	115	3	He	109.870	ug/l	227269.48
Ba	135	115	1	No Gas	113.876	ug/l	203336.82
Ba	137	115	1	No Gas	115.746	ug/l	355421.21
La	139	115	3	He	110.092	ug/l	998921.37
Ce	140	115	3	He	111.433	ug/l	1103278.98
Hg	201	209	1	No Gas	0.014	ug/l	32.99
Hg	202	209	1	No Gas	0.023	ug/l	98.65
Hg	202	209	3	He	0.021	ug/l	48.66
Tl	203	209	3	He	99.777	ug/l	454734.72
Tl	205	209	1	No Gas	107.390	ug/l	2239916.29
Tl	205	209	3	He	97.061	ug/l	1101008.97
[Pb]	206	209	1	No Gas	103.673	ug/l	769087.38
[Pb]	207	209	1	No Gas	104.972	ug/l	674809.53
Pb	208	209	1	No Gas	106.647	ug/l	3142957.05
Th	232	209	3	He	103.606	ug/l	1665845.70
U	238	209	1	No Gas	113.237	ug/l	3314099.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1482087.89	57.9
Sc	45	2	H2	982918.01	72.5
Sc	45	3	He	99540.50	62.4
Ge	72	1	No Gas	467398.94	69.8
Ge	72	2	H2	369655.71	81.2
Ge	72	3	He	74080.89	72.7
In	115	1	No Gas	3404212.83	74.6
In	115	3	He	838990.10	79.0
Tb	159	1	No Gas	5466395.84	86.2
Tb	159	3	He	2459013.38	92.8
Ho	165	1	No Gas	5476449.85	87.6
Ho	165	3	He	2534378.66	96.0
Lu	175	1	No Gas	5721102.78	90.2
Lu	175	3	He	2109446.22	95.3
Bi	209	1	No Gas	3927193.05	89.8
Bi	209	3	He	2028660.06	101.1

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 074BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:00:48
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	0.518	ug/l	10675.37
Be	9	45	1	No Gas	-0.108	ug/l	114.31
B	11	45	1	No Gas	2.656	ug/l	3795.34
Na	23	45	3	He	118.642	ug/l	72269.05
Mg	24	45	3	He	17.819	ug/l	5623.26
Al	27	45	1	No Gas	-1.223	ug/l	22135.30
Si	28	45	2	H2	3.795	ug/l	10709.48
K	39	72	3	He	-142.663	ug/l	64925.31
Ca	40	72	2	H2	-4.904	ug/l	83472.99
Ti	47	72	1	No Gas	-0.045	ug/l	175.18
V	51	72	1	No Gas	9.120	ug/l	10143.76
V	51	72	3	He	-11.281	ug/l	16818.59
Cr	52	72	1	No Gas	-5.378	ug/l	41019.85
Cr	52	72	3	He	0.016	ug/l	800.03
Mn	55	72	1	No Gas	-0.366	ug/l	7959.80
Mn	55	72	3	He	-0.018	ug/l	106.98
Fe	56	72	2	H2	-0.764	ug/l	7325.88
Fe	56	72	3	He	-1.189	ug/l	3433.87
Co	59	72	1	No Gas	0.003	ug/l	475.73
Ni	60	72	1	No Gas	-0.101	ug/l	316.05
Ni	60	72	3	He	-0.030	ug/l	73.33
Cu	63	72	1	No Gas	-0.057	ug/l	1195.86
Cu	63	72	3	He	0.037	ug/l	412.92
Cu	65	72	1	No Gas	0.015	ug/l	532.89
Zn	66	72	1	No Gas	0.068	ug/l	481.12
Zn	66	72	3	He	0.020	ug/l	105.56
As	75	72	1	No Gas	-3.301	ug/l	11560.69
As	75	72	3	He	-0.476	ug/l	246.20
Se	78	72	2	H2	-0.009	ug/l	32.33
Br	79	72	1	No Gas	1.116	ug/l	9987.01
Br	79	72	2	H2	0.976	ug/l	5753.09
Se	82	72	1	No Gas	0.012	ug/l	531.14
Kr	84	72	1	No Gas		ug/l	14292.17
Sr	88	72	1	No Gas	0.003	ug/l	259.49
Sr	88	72	3	He	0.008	ug/l	58.89
Mo	95	115	1	No Gas	0.017	ug/l	95.56
Mo	95	115	3	He	0.010	ug/l	21.11
Mo	98	115	1	No Gas	0.019	ug/l	152.85
Ag	107	115	1	No Gas	0.000	ug/l	773.67
Ag	109	115	1	No Gas	-0.003	ug/l	738.32
Cd	111	115	1	No Gas	-0.012	ug/l	-33.34

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	9.33
Cd	114	115	1	No Gas	-0.003	ug/l	-77.91
Cd	114	115	3	He	0.005	ug/l	20.25
Sn	118	115	1	No Gas	-0.046	ug/l	2022.81
Sn	118	115	3	He	-0.021	ug/l	472.23
Sb	121	115	1	No Gas	0.164	ug/l	1998.02
Sb	121	115	3	He	0.142	ug/l	443.05
Sb	123	115	1	No Gas	0.168	ug/l	1567.25
Sb	123	115	3	He	0.142	ug/l	350.37
Ba	135	115	1	No Gas	0.005	ug/l	23.29
Ba	137	115	1	No Gas	0.002	ug/l	33.27
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.001	ug/l	15.56
Hg	201	209	1	No Gas	0.003	ug/l	18.00
Hg	202	209	1	No Gas	0.007	ug/l	51.99
Hg	202	209	3	He	0.006	ug/l	22.00
Tl	203	209	3	He	0.248	ug/l	1619.42
Tl	205	209	1	No Gas	0.214	ug/l	7030.84
Tl	205	209	3	He	0.243	ug/l	3883.47
[Pb]	206	209	1	No Gas	-0.139	ug/l	2641.39
[Pb]	207	209	1	No Gas	-0.113	ug/l	2250.21
Pb	208	209	1	No Gas	-0.121	ug/l	10391.65
Th	232	209	3	He	0.106	ug/l	2034.98
U	238	209	1	No Gas	0.004	ug/l	173.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1778239.66	69.5
Sc	45	2	H2	1098439.43	81.0
Sc	45	3	He	112471.44	70.5
Ge	72	1	No Gas	527025.62	78.7
Ge	72	2	H2	404869.69	88.9
Ge	72	3	He	81345.59	79.9
In	115	1	No Gas	4111112.38	90.1
In	115	3	He	932894.74	87.9
Tb	159	1	No Gas	6488989.07	102.3
Tb	159	3	He	2696487.80	101.7
Ho	165	1	No Gas	6464136.41	103.4
Ho	165	3	He	2717698.07	102.9
Lu	175	1	No Gas	6729202.98	106.1
Lu	175	3	He	2296602.64	103.7
Bi	209	1	No Gas	4765289.72	109.0
Bi	209	3	He	2247024.25	112.0

ICPMS207-B Analytical Data

Sample Name B22011592-006A
File Name 075SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:07:02
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	-0.058	ug/l	10849.57
Be	9	45	1	No Gas	-0.127	ug/l	102.65
B	11	45	1	No Gas	52.918	ug/l	74857.86
Na	23	45	3	He	39805.823	ug/l	17222556.41
Mg	24	45	3	He	10380.530	ug/l	2531722.95
Al	27	45	1	No Gas	1.937	ug/l	62290.85
Si	28	45	2	H2	26888.201	ug/l	33086481.83
K	39	72	3	He	1751.191	ug/l	555612.61
Ca	40	72	2	H2	9494.884	ug/l	41280028.16
Ti	47	72	1	No Gas	2.114	ug/l	2370.93
V	51	72	1	No Gas	6.558	ug/l	-20615.88
V	51	72	3	He	-16.720	ug/l	8439.12
Cr	52	72	1	No Gas	-6.929	ug/l	29434.60
Cr	52	72	3	He	-0.064	ug/l	765.58
Mn	55	72	1	No Gas	545.354	ug/l	8004669.93
Mn	55	72	3	He	500.192	ug/l	774612.59
Fe	56	72	2	H2	446.777	ug/l	3637599.89
Fe	56	72	3	He	419.189	ug/l	881104.02
Co	59	72	1	No Gas	0.443	ug/l	5929.49
Ni	60	72	1	No Gas	0.866	ug/l	2891.23
Ni	60	72	3	He	0.895	ug/l	915.59
Cu	63	72	1	No Gas	0.143	ug/l	2667.99
Cu	63	72	3	He	0.065	ug/l	555.57
Cu	65	72	1	No Gas	0.119	ug/l	918.40
Zn	66	72	1	No Gas	0.846	ug/l	2194.42
Zn	66	72	3	He	0.732	ug/l	501.12
As	75	72	1	No Gas	-3.141	ug/l	13543.56
As	75	72	3	He	-0.061	ug/l	512.93
Se	78	72	2	H2	-0.032	ug/l	28.11
Br	79	72	1	No Gas	13.385	ug/l	84400.88
Br	79	72	2	H2	11.608	ug/l	47353.44
Se	82	72	1	No Gas	0.496	ug/l	679.94
Kr	84	72	1	No Gas		ug/l	25435.36
Sr	88	72	1	No Gas	84.049	ug/l	1589517.69
Sr	88	72	3	He	74.485	ug/l	179094.28
Mo	95	115	1	No Gas	0.264	ug/l	1233.39
Mo	95	115	3	He	0.304	ug/l	471.12
Mo	98	115	1	No Gas	0.275	ug/l	2064.12
Ag	107	115	1	No Gas	-0.063	ug/l	113.38
Ag	109	115	1	No Gas	-0.065	ug/l	109.38
Cd	111	115	1	No Gas	0.029	ug/l	66.95

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.021	ug/l	21.78
Cd	114	115	1	No Gas	0.036	ug/l	139.60
Cd	114	115	3	He	0.024	ug/l	58.63
Sn	118	115	1	No Gas	-0.242	ug/l	715.27
Sn	118	115	3	He	-0.214	ug/l	145.56
Sb	121	115	1	No Gas	0.044	ug/l	696.42
Sb	121	115	3	He	0.047	ug/l	185.69
Sb	123	115	1	No Gas	0.044	ug/l	536.40
Sb	123	115	3	He	0.045	ug/l	142.01
Ba	135	115	1	No Gas	4.242	ug/l	10266.82
Ba	137	115	1	No Gas	4.261	ug/l	17756.28
La	139	115	3	He	0.003	ug/l	53.33
Ce	140	115	3	He	0.022	ug/l	274.45
Hg	201	209	1	No Gas	0.003	ug/l	20.33
Hg	202	209	1	No Gas	0.113	ug/l	552.57
Hg	202	209	3	He	0.100	ug/l	222.63
Tl	203	209	3	He	0.110	ug/l	917.07
Tl	205	209	1	No Gas	0.087	ug/l	4048.43
Tl	205	209	3	He	0.107	ug/l	2165.72
[Pb]	206	209	1	No Gas	-0.170	ug/l	2522.48
[Pb]	207	209	1	No Gas	-0.164	ug/l	1972.38
Pb	208	209	1	No Gas	-0.164	ug/l	9419.13
Th	232	209	3	He	0.032	ug/l	706.97
U	238	209	1	No Gas	0.013	ug/l	545.23

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2321881.27	90.7
Sc	45	2	H2	1319505.14	97.3
Sc	45	3	He	143247.22	89.8
Ge	72	1	No Gas	597308.39	89.2
Ge	72	2	H2	439855.98	96.6
Ge	72	3	He	96914.79	95.1
In	115	1	No Gas	4589003.56	100.6
In	115	3	He	1038597.84	97.8
Tb	159	1	No Gas	6960596.71	109.7
Tb	159	3	He	2909166.80	109.7
Ho	165	1	No Gas	6853706.23	109.6
Ho	165	3	He	2875048.67	108.9
Lu	175	1	No Gas	7154394.24	112.8
Lu	175	3	He	2375861.90	107.3
Bi	209	1	No Gas	5076383.27	116.1
Bi	209	3	He	2234550.63	111.4

ICPMS207-B Analytical Data

Sample Name B22011592-006B
File Name 076SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:13:15
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	1.877	ug/l	13785.09
Be	9	45	1	No Gas	-0.093	ug/l	121.65
B	11	45	1	No Gas	55.117	ug/l	50576.16
Na	23	45	3	He	39815.850	ug/l	11223666.36
Mg	24	45	3	He	10265.819	ug/l	1631459.44
Al	27	45	1	No Gas	7.779	ug/l	80547.31
Si	28	45	2	H2	26834.321	ug/l	23819765.69
K	39	72	3	He	1514.584	ug/l	360169.00
Ca	40	72	2	H2	8857.390	ug/l	30761645.77
Ti	47	72	1	No Gas	2.553	ug/l	2140.65
V	51	72	1	No Gas	7.464	ug/l	-8717.98
V	51	72	3	He	-2.896	ug/l	27548.14
Cr	52	72	1	No Gas	-1.825	ug/l	65072.30
Cr	52	72	3	He	0.322	ug/l	1215.62
Mn	55	72	1	No Gas	500.968	ug/l	5597680.41
Mn	55	72	3	He	480.485	ug/l	540503.87
Fe	56	72	2	H2	444.871	ug/l	2892478.73
Fe	56	72	3	He	429.087	ug/l	655042.36
Co	59	72	1	No Gas	0.492	ug/l	4970.99
Ni	60	72	1	No Gas	0.871	ug/l	2209.12
Ni	60	72	3	He	0.935	ug/l	692.25
Cu	63	72	1	No Gas	1.012	ug/l	6369.95
Cu	63	72	3	He	1.020	ug/l	2004.41
Cu	65	72	1	No Gas	1.019	ug/l	2767.38
Zn	66	72	1	No Gas	0.735	ug/l	1490.92
Zn	66	72	3	He	0.771	ug/l	378.90
As	75	72	1	No Gas	1.089	ug/l	19292.20
As	75	72	3	He	0.702	ug/l	666.20
Se	78	72	2	H2	0.031	ug/l	38.11
Br	79	72	1	No Gas	6.812	ug/l	34445.90
Br	79	72	2	H2	6.136	ug/l	20920.30
Se	82	72	1	No Gas	0.615	ug/l	531.28
Kr	84	72	1	No Gas		ug/l	20130.80
Sr	88	72	1	No Gas	79.645	ug/l	1146415.22
Sr	88	72	3	He	75.640	ug/l	132093.02
Mo	95	115	1	No Gas	0.365	ug/l	1278.95
Mo	95	115	3	He	0.417	ug/l	491.12
Mo	98	115	1	No Gas	0.386	ug/l	2188.59
Ag	107	115	1	No Gas	-0.059	ug/l	122.05
Ag	109	115	1	No Gas	-0.061	ug/l	122.05
Cd	111	115	1	No Gas	0.014	ug/l	21.58

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	4.44
Cd	114	115	1	No Gas	0.018	ug/l	24.36
Cd	114	115	3	He	-0.006	ug/l	1.23
Sn	118	115	1	No Gas	0.602	ug/l	5560.09
Sn	118	115	3	He	0.939	ug/l	1843.46
Sb	121	115	1	No Gas	0.077	ug/l	841.78
Sb	121	115	3	He	0.082	ug/l	228.69
Sb	123	115	1	No Gas	0.084	ug/l	701.42
Sb	123	115	3	He	0.078	ug/l	173.35
Ba	135	115	1	No Gas	4.462	ug/l	8172.90
Ba	137	115	1	No Gas	4.491	ug/l	14155.85
La	139	115	3	He	0.010	ug/l	95.56
Ce	140	115	3	He	0.059	ug/l	556.68
Hg	201	209	1	No Gas	0.014	ug/l	35.66
Hg	202	209	1	No Gas	0.160	ug/l	629.22
Hg	202	209	3	He	0.119	ug/l	239.62
Tl	203	209	3	He	0.133	ug/l	942.41
Tl	205	209	1	No Gas	0.105	ug/l	3697.21
Tl	205	209	3	He	0.128	ug/l	2213.08
[Pb]	206	209	1	No Gas	-0.057	ug/l	2925.90
[Pb]	207	209	1	No Gas	-0.031	ug/l	2498.03
Pb	208	209	1	No Gas	-0.036	ug/l	11605.41
Th	232	209	3	He	0.191	ug/l	3221.70
U	238	209	1	No Gas	0.018	ug/l	575.90

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1508528.75	59.0
Sc	45	2	H2	952070.81	70.2
Sc	45	3	He	93328.77	58.5
Ge	72	1	No Gas	454564.09	67.9
Ge	72	2	H2	351296.99	77.1
Ge	72	3	He	70405.82	69.1
In	115	1	No Gas	3473795.31	76.1
In	115	3	He	792542.83	74.6
Tb	159	1	No Gas	5614254.79	88.5
Tb	159	3	He	2430734.37	91.7
Ho	165	1	No Gas	5529894.44	88.4
Ho	165	3	He	2474073.36	93.7
Lu	175	1	No Gas	5743044.92	90.6
Lu	175	3	He	2011014.76	90.8
Bi	209	1	No Gas	4123187.29	94.3
Bi	209	3	He	2041902.19	101.8

ICPMS207-B Analytical Data

Sample Name B22011592-012A
File Name 077SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:19:29
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	-0.015	ug/l	10649.34
Be	9	45	1	No Gas	-0.133	ug/l	82.98
B	11	45	1	No Gas	34.703	ug/l	47595.96
Na	23	45	3	He	38312.167	ug/l	16065502.26
Mg	24	45	3	He	17562.019	ug/l	4148183.74
Al	27	45	1	No Gas	1.797	ug/l	58702.36
Si	28	45	2	H2	25279.480	ug/l	31327380.90
K	39	72	3	He	3184.751	ug/l	891467.29
Ca	40	72	2	H2	15178.280	ug/l	67129739.87
Ti	47	72	1	No Gas	1.384	ug/l	1620.06
V	51	72	1	No Gas	16.104	ug/l	97923.95
V	51	72	3	He	-10.064	ug/l	21992.07
Cr	52	72	1	No Gas	-5.961	ug/l	39671.35
Cr	52	72	3	He	0.842	ug/l	2816.95
Mn	55	72	1	No Gas	7.523	ug/l	123350.99
Mn	55	72	3	He	7.899	ug/l	12033.51
Fe	56	72	2	H2	0.067	ug/l	14960.92
Fe	56	72	3	He	-0.412	ug/l	5548.56
Co	59	72	1	No Gas	0.022	ug/l	771.82
Ni	60	72	1	No Gas	0.715	ug/l	2472.00
Ni	60	72	3	He	0.636	ug/l	664.46
Cu	63	72	1	No Gas	0.413	ug/l	4395.77
Cu	63	72	3	He	0.385	ug/l	1258.14
Cu	65	72	1	No Gas	0.402	ug/l	1754.81
Zn	66	72	1	No Gas	1.073	ug/l	2646.95
Zn	66	72	3	He	0.905	ug/l	575.57
As	75	72	1	No Gas	-4.282	ug/l	10270.56
As	75	72	3	He	-0.732	ug/l	153.27
Se	78	72	2	H2	0.194	ug/l	100.33
Br	79	72	1	No Gas	21.914	ug/l	133909.67
Br	79	72	2	H2	19.145	ug/l	77890.63
Se	82	72	1	No Gas	0.333	ug/l	647.15
Kr	84	72	1	No Gas		ug/l	36443.73
Sr	88	72	1	No Gas	201.487	ug/l	3772631.42
Sr	88	72	3	He	180.095	ug/l	420607.88
Mo	95	115	1	No Gas	0.372	ug/l	1705.67
Mo	95	115	3	He	0.430	ug/l	643.35
Mo	98	115	1	No Gas	0.369	ug/l	2735.84
Ag	107	115	1	No Gas	-0.062	ug/l	119.38
Ag	109	115	1	No Gas	-0.065	ug/l	114.05
Cd	111	115	1	No Gas	0.041	ug/l	94.69

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.028	ug/l	27.22
Cd	114	115	1	No Gas	0.044	ug/l	188.22
Cd	114	115	3	He	0.031	ug/l	70.02
Sn	118	115	1	No Gas	-0.231	ug/l	798.44
Sn	118	115	3	He	-0.213	ug/l	143.34
Sb	121	115	1	No Gas	0.076	ug/l	1095.82
Sb	121	115	3	He	0.079	ug/l	280.36
Sb	123	115	1	No Gas	0.079	ug/l	870.12
Sb	123	115	3	He	0.082	ug/l	229.02
Ba	135	115	1	No Gas	4.486	ug/l	10759.50
Ba	137	115	1	No Gas	4.490	ug/l	18528.97
La	139	115	3	He	0.000	ug/l	18.89
Ce	140	115	3	He	0.004	ug/l	50.00
Hg	201	209	1	No Gas	0.002	ug/l	18.33
Hg	202	209	1	No Gas	0.006	ug/l	49.99
Hg	202	209	3	He	0.005	ug/l	20.00
Tl	203	209	3	He	0.039	ug/l	569.57
Tl	205	209	1	No Gas	0.042	ug/l	2826.99
Tl	205	209	3	He	0.050	ug/l	1475.34
[Pb]	206	209	1	No Gas	-0.155	ug/l	2634.73
[Pb]	207	209	1	No Gas	-0.137	ug/l	2179.08
Pb	208	209	1	No Gas	-0.141	ug/l	10197.15
Th	232	209	3	He	0.006	ug/l	247.44
U	238	209	1	No Gas	0.012	ug/l	483.91

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2231754.94	87.2
Sc	45	2	H2	1328968.57	98.0
Sc	45	3	He	138795.34	87.0
Ge	72	1	No Gas	591294.62	88.3
Ge	72	2	H2	447942.74	98.3
Ge	72	3	He	94155.41	92.4
In	115	1	No Gas	4548052.10	99.7
In	115	3	He	1007060.59	94.8
Tb	159	1	No Gas	6995384.88	110.3
Tb	159	3	He	2853229.74	107.6
Ho	165	1	No Gas	6846727.63	109.5
Ho	165	3	He	2872441.61	108.8
Lu	175	1	No Gas	7265536.38	114.6
Lu	175	3	He	2405037.61	108.6
Bi	209	1	No Gas	5027326.78	115.0
Bi	209	3	He	2268641.47	113.1

ICPMS207-B Analytical Data

Sample Name B22011592-012ADIL
File Name 078ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:25:42
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	1.596	ug/l	9618.24
Be	9	45	1	No Gas	-0.624	ug/l	80.65
B	11	45	1	No Gas	42.684	ug/l	9815.15
Na	23	45	3	He	39897.031	ug/l	2672437.81
Mg	24	45	3	He	17186.358	ug/l	644360.83
Al	27	45	1	No Gas	-6.072	ug/l	21663.58
Si	28	45	2	H2	25967.187	ug/l	5263140.84
K	39	72	3	He	2465.041	ug/l	194916.16
Ca	40	72	2	H2	15393.330	ug/l	12008079.32
Ti	47	72	1	No Gas	0.819	ug/l	342.02
V	51	72	1	No Gas	92.302	ug/l	107997.58
V	51	72	3	He	-53.364	ug/l	17482.72
Cr	52	72	1	No Gas	-27.075	ug/l	38587.63
Cr	52	72	3	He	1.167	ug/l	1200.06
Mn	55	72	1	No Gas	6.136	ug/l	27091.42
Mn	55	72	3	He	7.928	ug/l	2139.40
Fe	56	72	2	H2	-2.224	ug/l	9407.50
Fe	56	72	3	He	-4.309	ug/l	3909.47
Co	59	72	1	No Gas	-0.024	ug/l	375.93
Ni	60	72	1	No Gas	0.336	ug/l	668.69
Ni	60	72	3	He	0.492	ug/l	165.56
Cu	63	72	1	No Gas	0.501	ug/l	1996.94
Cu	63	72	3	He	0.788	ug/l	630.55
Cu	65	72	1	No Gas	0.749	ug/l	847.03
Zn	66	72	1	No Gas	3.785	ug/l	1678.87
Zn	66	72	3	He	3.624	ug/l	407.79
As	75	72	1	No Gas	-20.696	ug/l	9023.15
As	75	72	3	He	-2.746	ug/l	208.67
Se	78	72	2	H2	0.097	ug/l	39.33
Br	79	72	1	No Gas	86.086	ug/l	89802.64
Br	79	72	2	H2	74.349	ug/l	53495.70
Se	82	72	1	No Gas	0.044	ug/l	503.67
Kr	84	72	1	No Gas		ug/l	17342.78
Sr	88	72	1	No Gas	198.204	ug/l	627884.92
Sr	88	72	3	He	185.071	ug/l	72936.53
Mo	95	115	1	No Gas	0.359	ug/l	310.01
Mo	95	115	3	He	0.427	ug/l	121.11
Mo	98	115	1	No Gas	0.422	ug/l	567.45
Ag	107	115	1	No Gas	-0.327	ug/l	69.36
Ag	109	115	1	No Gas	-0.335	ug/l	77.36
Cd	111	115	1	No Gas	0.086	ug/l	31.43

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.034	ug/l	9.11
Cd	114	115	1	No Gas	0.120	ug/l	61.11
Cd	114	115	3	He	0.034	ug/l	22.74
Sn	118	115	1	No Gas	-0.400	ug/l	1733.35
Sn	118	115	3	He	-0.055	ug/l	478.90
Sb	121	115	1	No Gas	0.147	ug/l	440.38
Sb	121	115	3	He	0.173	ug/l	128.01
Sb	123	115	1	No Gas	0.160	ug/l	360.04
Sb	123	115	3	He	0.181	ug/l	104.34
Ba	135	115	1	No Gas	4.766	ug/l	2016.16
Ba	137	115	1	No Gas	4.771	ug/l	3476.89
La	139	115	3	He	0.002	ug/l	16.67
Ce	140	115	3	He	0.009	ug/l	25.55
Hg	201	209	1	No Gas	-0.001	ug/l	12.67
Hg	202	209	1	No Gas	0.025	ug/l	41.99
Hg	202	209	3	He	0.009	ug/l	12.33
Tl	203	209	3	He	0.029	ug/l	382.16
Tl	205	209	1	No Gas	0.013	ug/l	1660.12
Tl	205	209	3	He	0.085	ug/l	1008.44
[Pb]	206	209	1	No Gas	-0.925	ug/l	2213.53
[Pb]	207	209	1	No Gas	-0.817	ug/l	1841.25
Pb	208	209	1	No Gas	-0.825	ug/l	8744.53
Th	232	209	3	He	0.086	ug/l	439.76
U	238	209	1	No Gas	0.013	ug/l	131.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1734788.72	67.8
Sc	45	2	H2	1085476.38	80.1
Sc	45	3	He	109840.03	68.8
Ge	72	1	No Gas	500085.02	74.7
Ge	72	2	H2	392425.38	86.1
Ge	72	3	He	79403.84	77.9
In	115	1	No Gas	3991245.42	87.5
In	115	3	He	911661.12	85.9
Tb	159	1	No Gas	6196666.40	97.7
Tb	159	3	He	2684357.34	101.3
Ho	165	1	No Gas	6239590.31	99.8
Ho	165	3	He	2718840.88	103.0
Lu	175	1	No Gas	6544246.67	103.2
Lu	175	3	He	2229251.28	100.7
Bi	209	1	No Gas	4728146.93	108.1
Bi	209	3	He	2174927.22	108.4

ICPMS207-B Analytical Data

Sample Name B22011592-012AMS
File Name 079MS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:31:55
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	1421.530	ug/l	6015082.94
Be	9	45	1	No Gas	33.806	ug/l	66994.78
B	11	45	1	No Gas	71.951	ug/l	79751.58
Na	23	45	3	He	89167.520	ug/l	33299425.89
Mg	24	45	3	He	67726.583	ug/l	14263082.85
Al	27	45	1	No Gas	41.482	ug/l	378706.65
Si	28	45	2	H2	25799.810	ug/l	27194702.92
K	39	72	3	He	47892.872	ug/l	10990207.89
Ca	40	72	2	H2	60041.332	ug/l	239398533.43
Ti	47	72	1	No Gas	48.441	ug/l	42734.82
V	51	72	1	No Gas	54.874	ug/l	506965.31
V	51	72	3	He	46.676	ug/l	130460.94
Cr	52	72	1	No Gas	43.972	ug/l	516648.91
Cr	52	72	3	He	49.808	ug/l	106446.82
Mn	55	72	1	No Gas	57.454	ug/l	747249.46
Mn	55	72	3	He	56.370	ug/l	78677.27
Fe	56	72	2	H2	5046.706	ug/l	37633990.58
Fe	56	72	3	He	5040.989	ug/l	9469428.37
Co	59	72	1	No Gas	46.075	ug/l	493110.66
Ni	60	72	1	No Gas	49.103	ug/l	112786.79
Ni	60	72	3	He	50.685	ug/l	40937.29
Cu	63	72	1	No Gas	48.780	ug/l	280927.75
Cu	63	72	3	He	52.737	ug/l	109807.82
Cu	65	72	1	No Gas	51.139	ug/l	135236.20
Zn	66	72	1	No Gas	57.413	ug/l	106516.31
Zn	66	72	3	He	53.744	ug/l	25610.34
As	75	72	1	No Gas	52.376	ug/l	146931.06
As	75	72	3	He	51.090	ug/l	24839.19
Se	78	72	2	H2	52.043	ug/l	14975.47
Br	79	72	1	No Gas	20.903	ug/l	112840.42
Br	79	72	2	H2	18.498	ug/l	68077.76
Se	82	72	1	No Gas	55.748	ug/l	8380.68
Kr	84	72	1	No Gas		ug/l	39205.55
Sr	88	72	1	No Gas	257.256	ug/l	4243978.51
Sr	88	72	3	He	232.993	ug/l	504075.91
Mo	95	115	1	No Gas	46.348	ug/l	175434.29
Mo	95	115	3	He	50.266	ug/l	67874.93
Mo	98	115	1	No Gas	46.347	ug/l	285640.01
Ag	107	115	1	No Gas	19.566	ug/l	197166.46
Ag	109	115	1	No Gas	19.792	ug/l	190907.03
Cd	111	115	1	No Gas	52.177	ug/l	110020.53

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.411	ug/l	38532.19
Cd	114	115	1	No Gas	50.852	ug/l	250857.90
Cd	114	115	3	He	55.694	ug/l	95552.35
Sn	118	115	1	No Gas	48.667	ug/l	320103.31
Sn	118	115	3	He	51.936	ug/l	90893.97
Sb	121	115	1	No Gas	51.198	ug/l	544139.57
Sb	121	115	3	He	52.374	ug/l	150371.92
Sb	123	115	1	No Gas	51.037	ug/l	417456.50
Sb	123	115	3	He	52.729	ug/l	119356.85
Ba	135	115	1	No Gas	57.069	ug/l	114733.06
Ba	137	115	1	No Gas	57.536	ug/l	198868.23
La	139	115	3	He	0.006	ug/l	73.33
Ce	140	115	3	He	54.154	ug/l	586683.53
Hg	201	209	1	No Gas	0.944	ug/l	1733.77
Hg	202	209	1	No Gas	0.994	ug/l	4095.48
Hg	202	209	3	He	0.978	ug/l	1899.76
Tl	203	209	3	He	49.580	ug/l	226549.85
Tl	205	209	1	No Gas	49.114	ug/l	1155013.64
Tl	205	209	3	He	48.107	ug/l	546900.36
[Pb]	206	209	1	No Gas	48.040	ug/l	403798.66
[Pb]	207	209	1	No Gas	47.790	ug/l	347740.53
Pb	208	209	1	No Gas	48.628	ug/l	1623070.83
Th	232	209	3	He	49.323	ug/l	794374.99
U	238	209	1	No Gas	52.412	ug/l	1729107.79

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1881110.42	73.5
Sc	45	2	H2	1164149.80	85.9
Sc	45	3	He	127528.92	79.9
Ge	72	1	No Gas	536634.11	80.1
Ge	72	2	H2	416444.83	91.4
Ge	72	3	He	89840.67	88.2
In	115	1	No Gas	3930706.53	86.1
In	115	3	He	945590.67	89.1
Tb	159	1	No Gas	6340060.20	99.9
Tb	159	3	He	2754433.16	103.9
Ho	165	1	No Gas	6405098.88	102.4
Ho	165	3	He	2750740.51	104.2
Lu	175	1	No Gas	6705885.55	105.7
Lu	175	3	He	2303909.90	104.1
Bi	209	1	No Gas	4548962.17	104.0
Bi	209	3	He	2092228.35	104.3

ICPMS207-B Analytical Data

Sample Name B22011592-012AMSD
File Name 080MSD.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:38:09
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	1641.088	ug/l	7902861.88
Be	9	45	1	No Gas	36.669	ug/l	82746.43
B	11	45	1	No Gas	76.431	ug/l	96457.41
Na	23	45	3	He	87078.006	ug/l	35643513.91
Mg	24	45	3	He	66526.121	ug/l	15352535.33
Al	27	45	1	No Gas	42.815	ug/l	444077.03
Si	28	45	2	H2	26051.694	ug/l	29130898.69
K	39	72	3	He	49424.442	ug/l	12008989.96
Ca	40	72	2	H2	61751.597	ug/l	253293376.12
Ti	47	72	1	No Gas	50.104	ug/l	50297.63
V	51	72	1	No Gas	61.672	ug/l	661583.96
V	51	72	3	He	49.227	ug/l	143374.11
Cr	52	72	1	No Gas	44.580	ug/l	594547.37
Cr	52	72	3	He	49.846	ug/l	112842.04
Mn	55	72	1	No Gas	55.117	ug/l	816644.90
Mn	55	72	3	He	57.080	ug/l	84389.49
Fe	56	72	2	H2	5167.465	ug/l	39631763.70
Fe	56	72	3	He	5051.860	ug/l	10051297.09
Co	59	72	1	No Gas	46.046	ug/l	560860.03
Ni	60	72	1	No Gas	48.757	ug/l	127526.86
Ni	60	72	3	He	50.293	ug/l	43019.68
Cu	63	72	1	No Gas	48.318	ug/l	316796.58
Cu	63	72	3	He	52.583	ug/l	115972.98
Cu	65	72	1	No Gas	49.931	ug/l	150301.25
Zn	66	72	1	No Gas	55.938	ug/l	118082.19
Zn	66	72	3	He	53.541	ug/l	27026.21
As	75	72	1	No Gas	50.237	ug/l	161276.24
As	75	72	3	He	51.608	ug/l	26573.35
Se	78	72	2	H2	53.247	ug/l	15761.19
Br	79	72	1	No Gas	19.912	ug/l	122536.00
Br	79	72	2	H2	18.359	ug/l	69518.63
Se	82	72	1	No Gas	53.445	ug/l	9173.86
Kr	84	72	1	No Gas		ug/l	43475.86
Sr	88	72	1	No Gas	240.349	ug/l	4512026.59
Sr	88	72	3	He	230.842	ug/l	528934.47
Mo	95	115	1	No Gas	46.979	ug/l	189123.09
Mo	95	115	3	He	50.577	ug/l	71158.51
Mo	98	115	1	No Gas	47.210	ug/l	309434.06
Ag	107	115	1	No Gas	19.640	ug/l	210539.31
Ag	109	115	1	No Gas	19.801	ug/l	203205.13
Cd	111	115	1	No Gas	52.328	ug/l	117354.86

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.759	ug/l	39657.40
Cd	114	115	1	No Gas	50.716	ug/l	266136.09
Cd	114	115	3	He	54.791	ug/l	97940.23
Sn	118	115	1	No Gas	48.232	ug/l	337515.52
Sn	118	115	3	He	52.267	ug/l	95306.28
Sb	121	115	1	No Gas	51.133	ug/l	578125.24
Sb	121	115	3	He	51.994	ug/l	155533.44
Sb	123	115	1	No Gas	51.108	ug/l	444714.27
Sb	123	115	3	He	52.422	ug/l	123641.26
Ba	135	115	1	No Gas	58.925	ug/l	125956.47
Ba	137	115	1	No Gas	58.258	ug/l	214165.00
La	139	115	3	He	0.005	ug/l	62.22
Ce	140	115	3	He	53.060	ug/l	598921.53
Hg	201	209	1	No Gas	1.008	ug/l	1853.76
Hg	202	209	1	No Gas	1.012	ug/l	4175.83
Hg	202	209	3	He	1.015	ug/l	1938.76
Tl	203	209	3	He	50.154	ug/l	225274.67
Tl	205	209	1	No Gas	50.636	ug/l	1192985.65
Tl	205	209	3	He	48.614	ug/l	543134.00
[Pb]	206	209	1	No Gas	48.941	ug/l	411977.87
[Pb]	207	209	1	No Gas	49.338	ug/l	359510.30
Pb	208	209	1	No Gas	49.704	ug/l	1661466.36
Th	232	209	3	He	49.546	ug/l	784238.68
U	238	209	1	No Gas	52.589	ug/l	1737819.38

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2145974.90	83.9
Sc	45	2	H2	1235252.98	91.1
Sc	45	3	He	139745.21	87.6
Ge	72	1	No Gas	610817.91	91.2
Ge	72	2	H2	428437.18	94.1
Ge	72	3	He	95164.84	93.4
In	115	1	No Gas	4180514.18	91.6
In	115	3	He	985278.40	92.8
Tb	159	1	No Gas	6687594.55	105.4
Tb	159	3	He	2742643.80	103.5
Ho	165	1	No Gas	6508013.72	104.1
Ho	165	3	He	2768341.94	104.8
Lu	175	1	No Gas	6655212.22	104.9
Lu	175	3	He	2335154.99	105.5
Bi	209	1	No Gas	4555752.30	104.2
Bi	209	3	He	2057439.79	102.5

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 081BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:44:23
Sample Type BkVrfy
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	3.002	ug/l	24651.85
Be	9	45	1	No Gas	-0.115	ug/l	119.31
B	11	45	1	No Gas	2.507	ug/l	4291.67
Na	23	45	3	He	97.559	ug/l	73933.58
Mg	24	45	3	He	14.755	ug/l	5719.75
Al	27	45	1	No Gas	-1.315	ug/l	25234.64
Si	28	45	2	H2	1.520	ug/l	8988.98
K	39	72	3	He	-112.915	ug/l	78702.54
Ca	40	72	2	H2	-1.925	ug/l	97407.79
Ti	47	72	1	No Gas	0.161	ug/l	398.74
V	51	72	1	No Gas	2.562	ug/l	-69510.87
V	51	72	3	He	-7.292	ug/l	26472.81
Cr	52	72	1	No Gas	-3.384	ug/l	67150.33
Cr	52	72	3	He	-0.010	ug/l	826.70
Mn	55	72	1	No Gas	-0.178	ug/l	11555.00
Mn	55	72	3	He	-0.010	ug/l	130.31
Fe	56	72	2	H2	-0.529	ug/l	9273.96
Fe	56	72	3	He	-0.960	ug/l	4236.55
Co	59	72	1	No Gas	-0.014	ug/l	336.01
Ni	60	72	1	No Gas	-0.106	ug/l	339.33
Ni	60	72	3	He	-0.074	ug/l	44.44
Cu	63	72	1	No Gas	-0.041	ug/l	1427.98
Cu	63	72	3	He	0.038	ug/l	459.25
Cu	65	72	1	No Gas	0.033	ug/l	646.27
Zn	66	72	1	No Gas	-0.030	ug/l	330.22
Zn	66	72	3	He	-0.071	ug/l	72.22
As	75	72	1	No Gas	-1.749	ug/l	17032.33
As	75	72	3	He	-0.288	ug/l	364.53
Se	78	72	2	H2	0.011	ug/l	39.00
Br	79	72	1	No Gas	1.343	ug/l	12427.45
Br	79	72	2	H2	1.159	ug/l	6538.51
Se	82	72	1	No Gas	0.097	ug/l	602.61
Kr	84	72	1	No Gas		ug/l	15367.70
Sr	88	72	1	No Gas	0.003	ug/l	286.11
Sr	88	72	3	He	0.009	ug/l	65.55
Mo	95	115	1	No Gas	0.061	ug/l	283.34
Mo	95	115	3	He	0.058	ug/l	90.00
Mo	98	115	1	No Gas	0.059	ug/l	427.93
Ag	107	115	1	No Gas	-0.001	ug/l	793.68
Ag	109	115	1	No Gas	-0.007	ug/l	722.98
Cd	111	115	1	No Gas	0.017	ug/l	34.29

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	7.67
Cd	114	115	1	No Gas	0.013	ug/l	1.90
Cd	114	115	3	He	0.003	ug/l	17.96
Sn	118	115	1	No Gas	-0.004	ug/l	2395.47
Sn	118	115	3	He	0.052	ug/l	631.13
Sb	121	115	1	No Gas	0.345	ug/l	4202.72
Sb	121	115	3	He	0.313	ug/l	989.81
Sb	123	115	1	No Gas	0.342	ug/l	3209.03
Sb	123	115	3	He	0.318	ug/l	792.10
Ba	135	115	1	No Gas	0.002	ug/l	16.63
Ba	137	115	1	No Gas	0.000	ug/l	29.94
La	139	115	3	He	-0.001	ug/l	2.22
Ce	140	115	3	He	0.000	ug/l	11.11
Hg	201	209	1	No Gas	0.008	ug/l	26.66
Hg	202	209	1	No Gas	0.012	ug/l	71.99
Hg	202	209	3	He	0.009	ug/l	26.99
Tl	203	209	3	He	0.086	ug/l	785.68
Tl	205	209	1	No Gas	0.077	ug/l	3428.25
Tl	205	209	3	He	0.094	ug/l	1975.61
[Pb]	206	209	1	No Gas	-0.191	ug/l	2093.51
[Pb]	207	209	1	No Gas	-0.169	ug/l	1745.68
Pb	208	209	1	No Gas	-0.176	ug/l	8093.24
Th	232	209	3	He	0.103	ug/l	1937.59
U	238	209	1	No Gas	0.005	ug/l	209.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2098756.50	82.0
Sc	45	2	H2	1178707.95	86.9
Sc	45	3	He	127679.75	80.0
Ge	72	1	No Gas	586659.37	87.6
Ge	72	2	H2	413547.67	90.8
Ge	72	3	He	89891.48	88.2
In	115	1	No Gas	4255683.46	93.3
In	115	3	He	978125.57	92.1
Tb	159	1	No Gas	6342823.17	100.0
Tb	159	3	He	2682397.02	101.2
Ho	165	1	No Gas	6177941.78	98.8
Ho	165	3	He	2732213.52	103.5
Lu	175	1	No Gas	6416422.55	101.2
Lu	175	3	He	2288335.62	103.4
Bi	209	1	No Gas	4584952.38	104.9
Bi	209	3	He	2209824.93	110.1

ICPMS207-B Analytical Data

Sample Name B22011592-012B
File Name 082SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:50:35
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	3.279	ug/l	19760.11
Be	9	45	1	No Gas	-0.119	ug/l	84.98
B	11	45	1	No Gas	35.705	ug/l	34944.49
Na	23	45	3	He	38273.576	ug/l	11073091.64
Mg	24	45	3	He	17654.553	ug/l	2877399.05
Al	27	45	1	No Gas	86.999	ug/l	659570.63
Si	28	45	2	H2	26319.589	ug/l	23800309.58
K	39	72	3	He	2920.576	ug/l	640429.49
Ca	40	72	2	H2	14745.367	ug/l	52740343.90
Ti	47	72	1	No Gas	6.261	ug/l	5389.75
V	51	72	1	No Gas	24.538	ug/l	169784.56
V	51	72	3	He	4.732	ug/l	40792.11
Cr	52	72	1	No Gas	0.002	ug/l	87072.43
Cr	52	72	3	He	1.389	ug/l	3152.58
Mn	55	72	1	No Gas	17.890	ug/l	227744.85
Mn	55	72	3	He	17.240	ug/l	20200.47
Fe	56	72	2	H2	75.185	ug/l	513768.62
Fe	56	72	3	He	74.012	ug/l	121136.97
Co	59	72	1	No Gas	0.205	ug/l	2478.63
Ni	60	72	1	No Gas	0.960	ug/l	2585.12
Ni	60	72	3	He	0.919	ug/l	704.46
Cu	63	72	1	No Gas	0.993	ug/l	6796.32
Cu	63	72	3	He	1.028	ug/l	2090.07
Cu	65	72	1	No Gas	0.971	ug/l	2874.11
Zn	66	72	1	No Gas	1.482	ug/l	2920.02
Zn	66	72	3	He	1.535	ug/l	694.47
As	75	72	1	No Gas	-1.476	ug/l	15125.32
As	75	72	3	He	0.077	ug/l	440.73
Se	78	72	2	H2	0.300	ug/l	108.45
Br	79	72	1	No Gas	5.956	ug/l	33089.02
Br	79	72	2	H2	5.311	ug/l	18944.90
Se	82	72	1	No Gas	0.414	ug/l	551.01
Kr	84	72	1	No Gas		ug/l	31605.24
Sr	88	72	1	No Gas	201.165	ug/l	3129826.52
Sr	88	72	3	He	187.576	ug/l	339281.01
Mo	95	115	1	No Gas	0.535	ug/l	1886.80
Mo	95	115	3	He	0.552	ug/l	661.13
Mo	98	115	1	No Gas	0.528	ug/l	3020.34
Ag	107	115	1	No Gas	-0.057	ug/l	138.72
Ag	109	115	1	No Gas	-0.060	ug/l	129.39
Cd	111	115	1	No Gas	0.014	ug/l	20.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.006	ug/l	7.66
Cd	114	115	1	No Gas	0.015	ug/l	13.73
Cd	114	115	3	He	-0.001	ug/l	8.25
Sn	118	115	1	No Gas	0.733	ug/l	6412.13
Sn	118	115	3	He	1.028	ug/l	2015.71
Sb	121	115	1	No Gas	0.388	ug/l	3901.94
Sb	121	115	3	He	0.365	ug/l	949.13
Sb	123	115	1	No Gas	0.398	ug/l	3077.65
Sb	123	115	3	He	0.371	ug/l	759.76
Ba	135	115	1	No Gas	5.346	ug/l	9873.98
Ba	137	115	1	No Gas	5.232	ug/l	16700.36
La	139	115	3	He	0.032	ug/l	287.78
Ce	140	115	3	He	0.071	ug/l	685.58
Hg	201	209	1	No Gas	0.015	ug/l	35.66
Hg	202	209	1	No Gas	0.021	ug/l	97.98
Hg	202	209	3	He	0.019	ug/l	44.32
Tl	203	209	3	He	0.109	ug/l	805.68
Tl	205	209	1	No Gas	0.094	ug/l	3414.91
Tl	205	209	3	He	0.118	ug/l	2034.31
[Pb]	206	209	1	No Gas	-0.025	ug/l	3165.95
[Pb]	207	209	1	No Gas	-0.019	ug/l	2568.04
Pb	208	209	1	No Gas	-0.019	ug/l	12082.21
Th	232	209	3	He	0.204	ug/l	3340.44
U	238	209	1	No Gas	0.018	ug/l	584.90

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1601806.10	62.6
Sc	45	2	H2	969598.51	71.5
Sc	45	3	He	95771.79	60.0
Ge	72	1	No Gas	492712.89	73.6
Ge	72	2	H2	362230.47	79.5
Ge	72	3	He	72967.42	71.6
In	115	1	No Gas	3526652.03	77.3
In	115	3	He	807832.24	76.1
Tb	159	1	No Gas	5634428.08	88.8
Tb	159	3	He	2455837.31	92.6
Ho	165	1	No Gas	5609815.09	89.7
Ho	165	3	He	2511453.63	95.1
Lu	175	1	No Gas	5892548.33	92.9
Lu	175	3	He	2096453.99	94.7
Bi	209	1	No Gas	4115454.51	94.1
Bi	209	3	He	1982470.86	98.8

ICPMS207-B Analytical Data

Sample Name CCV
File Name 083_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 20:56:49
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	310.023	ug/l	1237654.18
Be	9	45	1	No Gas	33.141	ug/l	61653.47
B	11	45	1	No Gas	37.946	ug/l	39914.16
Na	23	45	3	He	12595.890	ug/l	4158483.34
Mg	24	45	3	He	12606.005	ug/l	2333629.70
Al	27	45	1	No Gas	40.146	ug/l	344120.71
Si	28	45	2	H2	194.979	ug/l	214761.67
K	39	72	3	He	10387.064	ug/l	2273329.10
Ca	40	72	2	H2	10898.759	ug/l	44924141.73
Ti	47	72	1	No Gas	44.940	ug/l	39736.79
V	51	72	1	No Gas	52.984	ug/l	490737.63
V	51	72	3	He	42.164	ug/l	111367.14
Cr	52	72	1	No Gas	44.291	ug/l	518032.90
Cr	52	72	3	He	51.999	ug/l	102548.03
Mn	55	72	1	No Gas	53.118	ug/l	692464.22
Mn	55	72	3	He	53.217	ug/l	68577.06
Fe	56	72	2	H2	1261.246	ug/l	9716238.08
Fe	56	72	3	He	1313.994	ug/l	2283112.25
Co	59	72	1	No Gas	50.874	ug/l	544983.50
Ni	60	72	1	No Gas	52.227	ug/l	120056.92
Ni	60	72	3	He	56.562	ug/l	42160.82
Cu	63	72	1	No Gas	52.486	ug/l	302724.72
Cu	63	72	3	He	59.871	ug/l	115044.44
Cu	65	72	1	No Gas	54.406	ug/l	144005.24
Zn	66	72	1	No Gas	61.537	ug/l	114326.35
Zn	66	72	3	He	60.075	ug/l	26418.45
As	75	72	1	No Gas	57.802	ug/l	159638.02
As	75	72	3	He	56.724	ug/l	25398.61
Se	78	72	2	H2	54.904	ug/l	16301.00
Br	79	72	1	No Gas	0.800	ug/l	8229.40
Br	79	72	2	H2	0.730	ug/l	5020.94
Se	82	72	1	No Gas	58.788	ug/l	8800.93
Kr	84	72	1	No Gas		ug/l	19547.95
Sr	88	72	1	No Gas	62.028	ug/l	1025020.68
Sr	88	72	3	He	59.171	ug/l	118213.72
Mo	95	115	1	No Gas	47.572	ug/l	187751.77
Mo	95	115	3	He	54.296	ug/l	72817.06
Mo	98	115	1	No Gas	47.581	ug/l	305736.56
Ag	107	115	1	No Gas	20.019	ug/l	210318.13
Ag	109	115	1	No Gas	20.266	ug/l	203855.51
Cd	111	115	1	No Gas	55.562	ug/l	122174.09

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	59.416	ug/l	42572.55
Cd	114	115	1	No Gas	53.854	ug/l	277085.76
Cd	114	115	3	He	61.489	ug/l	104757.39
Sn	118	115	1	No Gas	50.330	ug/l	345021.64
Sn	118	115	3	He	55.908	ug/l	97130.78
Sb	121	115	1	No Gas	53.272	ug/l	590455.55
Sb	121	115	3	He	56.967	ug/l	162404.38
Sb	123	115	1	No Gas	53.323	ug/l	454853.04
Sb	123	115	3	He	57.491	ug/l	129236.74
Ba	135	115	1	No Gas	55.147	ug/l	115612.77
Ba	137	115	1	No Gas	55.207	ug/l	199030.59
La	139	115	3	He	53.802	ug/l	530273.74
Ce	140	115	3	He	54.031	ug/l	581414.71
Hg	201	209	1	No Gas	0.946	ug/l	1765.77
Hg	202	209	1	No Gas	0.964	ug/l	4038.81
Hg	202	209	3	He	1.003	ug/l	2048.42
Tl	203	209	3	He	54.050	ug/l	259650.11
Tl	205	209	1	No Gas	53.067	ug/l	1268838.67
Tl	205	209	3	He	52.236	ug/l	624294.94
[Pb]	206	209	1	No Gas	52.718	ug/l	450023.03
[Pb]	207	209	1	No Gas	53.288	ug/l	393807.82
Pb	208	209	1	No Gas	53.131	ug/l	1801339.01
Th	232	209	3	He	53.640	ug/l	908272.49
U	238	209	1	No Gas	55.934	ug/l	1876214.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1715446.10	67.0
Sc	45	2	H2	1143155.89	84.3
Sc	45	3	He	109000.71	68.3
Ge	72	1	No Gas	522135.32	77.9
Ge	72	2	H2	417704.75	91.7
Ge	72	3	He	80539.02	79.1
In	115	1	No Gas	3978578.17	87.2
In	115	3	He	912264.60	85.9
Tb	159	1	No Gas	6102705.88	96.2
Tb	159	3	He	2627120.31	99.1
Ho	165	1	No Gas	6049566.23	96.7
Ho	165	3	He	2664299.54	100.9
Lu	175	1	No Gas	6361982.64	100.3
Lu	175	3	He	2211026.08	99.9
Bi	209	1	No Gas	4490114.80	102.7
Bi	209	3	He	2136180.67	106.5

ICPMS207-B Analytical Data

Sample Name CCB
File Name 084_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:03:05
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	1.116	ug/l	11797.31
Be	9	45	1	No Gas	-0.117	ug/l	86.98
B	11	45	1	No Gas	1.427	ug/l	2233.73
Na	23	45	3	He	129.532	ug/l	69659.14
Mg	24	45	3	He	9.733	ug/l	3739.74
Al	27	45	1	No Gas	-2.525	ug/l	10422.56
Si	28	45	2	H2	2.126	ug/l	8543.87
K	39	72	3	He	-160.179	ug/l	60075.43
Ca	40	72	2	H2	-6.337	ug/l	74625.98
Ti	47	72	1	No Gas	-0.042	ug/l	163.50
V	51	72	1	No Gas	10.320	ug/l	21965.66
V	51	72	3	He	-10.925	ug/l	17134.49
Cr	52	72	1	No Gas	-5.151	ug/l	39858.50
Cr	52	72	3	He	0.032	ug/l	816.69
Mn	55	72	1	No Gas	-0.349	ug/l	7533.67
Mn	55	72	3	He	-0.027	ug/l	94.65
Fe	56	72	2	H2	-0.804	ug/l	6746.70
Fe	56	72	3	He	-1.193	ug/l	3362.11
Co	59	72	1	No Gas	-0.013	ug/l	282.78
Ni	60	72	1	No Gas	-0.125	ug/l	239.53
Ni	60	72	3	He	-0.064	ug/l	46.67
Cu	63	72	1	No Gas	-0.054	ug/l	1114.49
Cu	63	72	3	He	0.035	ug/l	402.26
Cu	65	72	1	No Gas	0.014	ug/l	490.21
Zn	66	72	1	No Gas	-0.036	ug/l	264.78
Zn	66	72	3	He	-0.083	ug/l	58.89
As	75	72	1	No Gas	-2.899	ug/l	11575.18
As	75	72	3	He	-0.512	ug/l	226.07
Se	78	72	2	H2	-0.033	ug/l	24.56
Br	79	72	1	No Gas	0.555	ug/l	6488.65
Br	79	72	2	H2	0.458	ug/l	3753.06
Se	82	72	1	No Gas	-0.686	ug/l	398.48
Kr	84	72	1	No Gas		ug/l	14085.63
Sr	88	72	1	No Gas	1.692	ug/l	26531.27
Sr	88	72	3	He	0.008	ug/l	56.67
Mo	95	115	1	No Gas	0.021	ug/l	105.55
Mo	95	115	3	He	0.032	ug/l	48.89
Mo	98	115	1	No Gas	0.034	ug/l	239.03
Ag	107	115	1	No Gas	0.001	ug/l	742.32
Ag	109	115	1	No Gas	-0.005	ug/l	679.63
Cd	111	115	1	No Gas	-0.013	ug/l	-33.92

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.006	ug/l	8.67
Cd	114	115	1	No Gas	-0.003	ug/l	-76.05
Cd	114	115	3	He	0.006	ug/l	21.63
Sn	118	115	1	No Gas	-0.073	ug/l	1733.35
Sn	118	115	3	He	-0.033	ug/l	437.79
Sb	121	115	1	No Gas	0.120	ug/l	1407.88
Sb	121	115	3	He	0.101	ug/l	315.37
Sb	123	115	1	No Gas	0.114	ug/l	1031.81
Sb	123	115	3	He	0.108	ug/l	264.36
Ba	135	115	1	No Gas	-0.001	ug/l	9.98
Ba	137	115	1	No Gas	-0.002	ug/l	19.96
La	139	115	3	He	-0.001	ug/l	4.44
Ce	140	115	3	He	0.001	ug/l	16.67
Hg	201	209	1	No Gas	0.009	ug/l	28.99
Hg	202	209	1	No Gas	0.012	ug/l	69.66
Hg	202	209	3	He	0.011	ug/l	30.99
Tl	203	209	3	He	0.228	ug/l	1482.02
Tl	205	209	1	No Gas	0.181	ug/l	5765.75
Tl	205	209	3	He	0.226	ug/l	3596.61
[Pb]	206	209	1	No Gas	-0.161	ug/l	2276.87
[Pb]	207	209	1	No Gas	-0.147	ug/l	1845.69
Pb	208	209	1	No Gas	-0.156	ug/l	8515.55
Th	232	209	3	He	0.077	ug/l	1480.01
U	238	209	1	No Gas	0.004	ug/l	163.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1597419.23	62.4
Sc	45	2	H2	1042757.19	76.9
Sc	45	3	He	103155.92	64.7
Ge	72	1	No Gas	486150.41	72.6
Ge	72	2	H2	388778.79	85.3
Ge	72	3	He	79834.25	78.4
In	115	1	No Gas	3888111.90	85.2
In	115	3	He	904721.51	85.2
Tb	159	1	No Gas	5965630.63	94.0
Tb	159	3	He	2664229.37	100.5
Ho	165	1	No Gas	5890724.21	94.2
Ho	165	3	He	2732680.24	103.5
Lu	175	1	No Gas	6130643.50	96.7
Lu	175	3	He	2249461.18	101.6
Bi	209	1	No Gas	4438323.47	101.5
Bi	209	3	He	2199994.73	109.6

ICPMS207-B Analytical Data

Sample Name B22011592-017A
File Name 085SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:09:18
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	0.020	ug/l	10655.35
Be	9	45	1	No Gas	-0.131	ug/l	87.98
B	11	45	1	No Gas	182.165	ug/l	240557.55
Na	23	45	3	He	118964.712	ug/l	50945480.91
Mg	24	45	3	He	41046.600	ug/l	9917425.72
Al	27	45	1	No Gas	6.419	ug/l	103630.69
Si	28	45	2	H2	16699.171	ug/l	20367532.04
K	39	72	3	He	2464.438	ug/l	752283.49
Ca	40	72	2	H2	40738.898	ug/l	181309483.10
Ti	47	72	1	No Gas	1.108	ug/l	1348.09
V	51	72	1	No Gas	13.148	ug/l	61476.16
V	51	72	3	He	-10.627	ug/l	21919.69
Cr	52	72	1	No Gas	-6.008	ug/l	39244.39
Cr	52	72	3	He	0.195	ug/l	1404.52
Mn	55	72	1	No Gas	103.734	ug/l	1522255.50
Mn	55	72	3	He	97.389	ug/l	154342.33
Fe	56	72	2	H2	32.899	ug/l	288215.44
Fe	56	72	3	He	31.018	ug/l	72892.04
Co	59	72	1	No Gas	0.520	ug/l	6821.40
Ni	60	72	1	No Gas	6.555	ug/l	17659.02
Ni	60	72	3	He	6.440	ug/l	6012.38
Cu	63	72	1	No Gas	3.757	ug/l	26191.91
Cu	63	72	3	He	3.564	ug/l	8820.23
Cu	65	72	1	No Gas	3.774	ug/l	11864.28
Zn	66	72	1	No Gas	13.976	ug/l	29787.31
Zn	66	72	3	He	12.587	ug/l	6908.35
As	75	72	1	No Gas	-3.552	ug/l	12302.01
As	75	72	3	He	-0.502	ug/l	285.93
Se	78	72	2	H2	2.430	ug/l	817.58
Br	79	72	1	No Gas	128.765	ug/l	766307.42
Br	79	72	2	H2	134.945	ug/l	537735.12
Se	82	72	1	No Gas	4.248	ug/l	1275.30
Kr	84	72	1	No Gas		ug/l	60480.12
Sr	88	72	1	No Gas	413.623	ug/l	7761646.44
Sr	88	72	3	He	367.571	ug/l	903552.86
Mo	95	115	1	No Gas	0.565	ug/l	2552.47
Mo	95	115	3	He	0.604	ug/l	943.37
Mo	98	115	1	No Gas	0.558	ug/l	4076.92
Ag	107	115	1	No Gas	-0.061	ug/l	134.05
Ag	109	115	1	No Gas	-0.063	ug/l	131.39
Cd	111	115	1	No Gas	0.115	ug/l	277.91

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.103	ug/l	90.00
Cd	114	115	1	No Gas	0.114	ug/l	592.01
Cd	114	115	3	He	0.102	ug/l	213.17
Sn	118	115	1	No Gas	-0.240	ug/l	718.59
Sn	118	115	3	He	-0.205	ug/l	166.67
Sb	121	115	1	No Gas	0.156	ug/l	2085.03
Sb	121	115	3	He	0.174	ug/l	608.08
Sb	123	115	1	No Gas	0.163	ug/l	1670.94
Sb	123	115	3	He	0.171	ug/l	471.72
Ba	135	115	1	No Gas	78.422	ug/l	185827.38
Ba	137	115	1	No Gas	78.194	ug/l	318777.29
La	139	115	3	He	0.007	ug/l	92.22
Ce	140	115	3	He	0.014	ug/l	181.11
Hg	201	209	1	No Gas	0.011	ug/l	32.99
Hg	202	209	1	No Gas	0.014	ug/l	76.98
Hg	202	209	3	He	0.012	ug/l	33.32
Tl	203	209	3	He	0.099	ug/l	829.69
Tl	205	209	1	No Gas	0.073	ug/l	3341.57
Tl	205	209	3	He	0.100	ug/l	1990.95
[Pb]	206	209	1	No Gas	-0.025	ug/l	3532.71
[Pb]	207	209	1	No Gas	0.003	ug/l	3031.48
Pb	208	209	1	No Gas	-0.007	ug/l	13936.27
Th	232	209	3	He	0.062	ug/l	1196.54
U	238	209	1	No Gas	0.072	ug/l	2503.74

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2195605.02	85.8
Sc	45	2	H2	1307760.91	96.4
Sc	45	3	He	142041.64	89.0
Ge	72	1	No Gas	592585.28	88.5
Ge	72	2	H2	451228.26	99.1
Ge	72	3	He	99099.55	97.3
In	115	1	No Gas	4500956.42	98.6
In	115	3	He	1053070.78	99.2
Tb	159	1	No Gas	6712122.67	105.8
Tb	159	3	He	2884775.01	108.8
Ho	165	1	No Gas	6623388.10	105.9
Ho	165	3	He	2925466.48	110.8
Lu	175	1	No Gas	6821442.24	107.6
Lu	175	3	He	2448901.21	110.6
Bi	209	1	No Gas	4589537.23	105.0
Bi	209	3	He	2151178.31	107.2

ICPMS207-B Analytical Data

Sample Name B22011592-017B
File Name 086SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:15:33
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	1.517	ug/l	13160.98
Be	9	45	1	No Gas	-0.109	ug/l	100.65
B	11	45	1	No Gas	194.691	ug/l	185497.38
Na	23	45	3	He	122213.024	ug/l	37180935.56
Mg	24	45	3	He	42307.368	ug/l	7265311.75
Al	27	45	1	No Gas	413.304	ug/l	3006835.89
Si	28	45	2	H2	15231.749	ug/l	16413528.70
K	39	72	3	He	2299.068	ug/l	549434.22
Ca	40	72	2	H2	36020.496	ug/l	148171661.44
Ti	47	72	1	No Gas	42.625	ug/l	35665.70
V	51	72	1	No Gas	17.609	ug/l	99499.65
V	51	72	3	He	3.706	ug/l	41166.34
Cr	52	72	1	No Gas	0.590	ug/l	92645.51
Cr	52	72	3	He	2.642	ug/l	5651.11
Mn	55	72	1	No Gas	127.332	ug/l	1554026.57
Mn	55	72	3	He	125.424	ug/l	153810.68
Fe	56	72	2	H2	1103.649	ug/l	8494757.89
Fe	56	72	3	He	1266.723	ug/l	2096570.40
Co	59	72	1	No Gas	1.031	ug/l	10862.59
Ni	60	72	1	No Gas	7.619	ug/l	17016.33
Ni	60	72	3	He	8.115	ug/l	5842.32
Cu	63	72	1	No Gas	7.392	ug/l	41558.34
Cu	63	72	3	He	8.001	ug/l	14925.29
Cu	65	72	1	No Gas	7.571	ug/l	19359.27
Zn	66	72	1	No Gas	32.965	ug/l	58077.72
Zn	66	72	3	He	32.656	ug/l	13722.08
As	75	72	1	No Gas	-0.397	ug/l	17352.35
As	75	72	3	He	0.810	ug/l	771.01
Se	78	72	2	H2	2.151	ug/l	672.46
Br	79	72	1	No Gas	20.868	ug/l	106503.49
Br	79	72	2	H2	15.521	ug/l	59183.57
Se	82	72	1	No Gas	2.990	ug/l	894.08
Kr	84	72	1	No Gas		ug/l	51182.67
Sr	88	72	1	No Gas	397.452	ug/l	6211504.02
Sr	88	72	3	He	389.503	ug/l	741052.86
Mo	95	115	1	No Gas	0.763	ug/l	2759.17
Mo	95	115	3	He	0.906	ug/l	1111.16
Mo	98	115	1	No Gas	0.767	ug/l	4496.43
Ag	107	115	1	No Gas	-0.047	ug/l	234.09
Ag	109	115	1	No Gas	-0.051	ug/l	212.75
Cd	111	115	1	No Gas	0.158	ug/l	310.15

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.152	ug/l	103.00
Cd	114	115	1	No Gas	0.148	ug/l	635.02
Cd	114	115	3	He	0.158	ug/l	255.91
Sn	118	115	1	No Gas	0.736	ug/l	6618.44
Sn	118	115	3	He	1.072	ug/l	2143.51
Sb	121	115	1	No Gas	0.366	ug/l	3783.89
Sb	121	115	3	He	0.404	ug/l	1076.15
Sb	123	115	1	No Gas	0.372	ug/l	2956.95
Sb	123	115	3	He	0.399	ug/l	837.78
Ba	135	115	1	No Gas	83.689	ug/l	159420.83
Ba	137	115	1	No Gas	82.214	ug/l	269299.64
La	139	115	3	He	0.233	ug/l	2106.84
Ce	140	115	3	He	0.529	ug/l	5191.00
Hg	201	209	1	No Gas	0.037	ug/l	71.65
Hg	202	209	1	No Gas	0.044	ug/l	178.63
Hg	202	209	3	He	0.051	ug/l	99.98
Tl	203	209	3	He	0.113	ug/l	795.01
Tl	205	209	1	No Gas	0.082	ug/l	3058.16
Tl	205	209	3	He	0.111	ug/l	1894.90
[Pb]	206	209	1	No Gas	5.446	ug/l	43807.79
[Pb]	207	209	1	No Gas	5.531	ug/l	38297.40
Pb	208	209	1	No Gas	5.555	ug/l	176643.43
Th	232	209	3	He	0.173	ug/l	2745.40
U	238	209	1	No Gas	0.089	ug/l	2650.74

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1583595.89	61.9
Sc	45	2	H2	1230776.40	90.8
Sc	45	3	He	101056.99	63.3
Ge	72	1	No Gas	493992.90	73.7
Ge	72	2	H2	430953.58	94.6
Ge	72	3	He	76710.65	75.3
In	115	1	No Gas	3615498.98	79.2
In	115	3	He	831544.88	78.3
Tb	159	1	No Gas	5565562.71	87.7
Tb	159	3	He	2507078.34	94.6
Ho	165	1	No Gas	5510486.13	88.1
Ho	165	3	He	2520486.03	95.5
Lu	175	1	No Gas	5707488.64	90.0
Lu	175	3	He	2104629.89	95.1
Bi	209	1	No Gas	3951688.41	90.4
Bi	209	3	He	1912746.17	95.3

ICPMS207-B Analytical Data

Sample Name B22011592-022A
File Name 087SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:21:47
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	-0.245	ug/l	10083.40
Be	9	45	1	No Gas	-0.142	ug/l	66.99
B	11	45	1	No Gas	60.935	ug/l	88124.22
Na	23	45	3	He	92198.549	ug/l	40600364.67
Mg	24	45	3	He	36609.597	ug/l	9089342.07
Al	27	45	1	No Gas	1.167	ug/l	55449.30
Si	28	45	2	H2	22178.169	ug/l	28467936.52
K	39	72	3	He	2716.827	ug/l	824246.59
Ca	40	72	2	H2	40098.374	ug/l	182428622.19
Ti	47	72	1	No Gas	1.303	ug/l	1650.09
V	51	72	1	No Gas	20.969	ug/l	169455.57
V	51	72	3	He	-2.950	ug/l	38978.15
Cr	52	72	1	No Gas	-6.187	ug/l	39894.76
Cr	52	72	3	He	0.602	ug/l	2403.55
Mn	55	72	1	No Gas	5.827	ug/l	105837.50
Mn	55	72	3	He	6.440	ug/l	10437.62
Fe	56	72	2	H2	37.659	ug/l	335128.62
Fe	56	72	3	He	35.961	ug/l	84102.42
Co	59	72	1	No Gas	0.117	ug/l	2056.07
Ni	60	72	1	No Gas	0.662	ug/l	2498.60
Ni	60	72	3	He	0.485	ug/l	565.57
Cu	63	72	1	No Gas	0.698	ug/l	6697.57
Cu	63	72	3	He	0.436	ug/l	1455.45
Cu	65	72	1	No Gas	0.581	ug/l	2456.53
Zn	66	72	1	No Gas	1.853	ug/l	4592.65
Zn	66	72	3	He	1.650	ug/l	1014.49
As	75	72	1	No Gas	-2.788	ug/l	15404.50
As	75	72	3	He	0.953	ug/l	1082.15
Se	78	72	2	H2	0.391	ug/l	168.11
Br	79	72	1	No Gas	66.353	ug/l	424489.61
Br	79	72	2	H2	62.388	ug/l	255528.70
Se	82	72	1	No Gas	1.242	ug/l	848.49
Kr	84	72	1	No Gas		ug/l	56314.87
Sr	88	72	1	No Gas	344.374	ug/l	6911362.30
Sr	88	72	3	He	320.372	ug/l	793839.70
Mo	95	115	1	No Gas	3.156	ug/l	14349.48
Mo	95	115	3	He	3.434	ug/l	5434.40
Mo	98	115	1	No Gas	3.172	ug/l	23464.93
Ag	107	115	1	No Gas	-0.054	ug/l	216.09
Ag	109	115	1	No Gas	-0.057	ug/l	204.09
Cd	111	115	1	No Gas	0.028	ug/l	63.30

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.025	ug/l	25.89
Cd	114	115	1	No Gas	0.037	ug/l	144.98
Cd	114	115	3	He	0.025	ug/l	64.25
Sn	118	115	1	No Gas	-0.206	ug/l	1001.39
Sn	118	115	3	He	-0.171	ug/l	237.78
Sb	121	115	1	No Gas	0.070	ug/l	1022.81
Sb	121	115	3	He	0.070	ug/l	270.03
Sb	123	115	1	No Gas	0.069	ug/l	779.77
Sb	123	115	3	He	0.070	ug/l	213.02
Ba	135	115	1	No Gas	10.416	ug/l	25119.60
Ba	137	115	1	No Gas	10.449	ug/l	43334.74
La	139	115	3	He	0.006	ug/l	90.00
Ce	140	115	3	He	0.013	ug/l	166.67
Hg	201	209	1	No Gas	0.080	ug/l	169.64
Hg	202	209	1	No Gas	1.656	ug/l	7345.56
Hg	202	209	3	He	1.375	ug/l	2920.07
Tl	203	209	3	He	0.040	ug/l	561.57
Tl	205	209	1	No Gas	0.031	ug/l	2380.23
Tl	205	209	3	He	0.040	ug/l	1316.59
[Pb]	206	209	1	No Gas	-0.166	ug/l	2401.35
[Pb]	207	209	1	No Gas	-0.151	ug/l	1953.49
Pb	208	209	1	No Gas	-0.150	ug/l	9324.69
Th	232	209	3	He	0.001	ug/l	169.40
U	238	209	1	No Gas	0.185	ug/l	6605.02

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2377522.18	92.9
Sc	45	2	H2	1376144.24	101.5
Sc	45	3	He	145975.50	91.5
Ge	72	1	No Gas	633941.29	94.6
Ge	72	2	H2	461301.14	101.3
Ge	72	3	He	99913.87	98.1
In	115	1	No Gas	4574610.16	100.3
In	115	3	He	1074614.55	101.2
Tb	159	1	No Gas	7005032.54	110.4
Tb	159	3	He	2939174.23	110.9
Ho	165	1	No Gas	6858300.45	109.7
Ho	165	3	He	2975241.47	112.7
Lu	175	1	No Gas	7218979.51	113.8
Lu	175	3	He	2506352.02	113.2
Bi	209	1	No Gas	4763064.00	108.9
Bi	209	3	He	2222835.47	110.8

ICPMS207-B Analytical Data

Sample Name B22011592-022B
File Name 088SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:28:02
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	1.013	ug/l	12024.92
Be	9	45	1	No Gas	-0.128	ug/l	72.65
B	11	45	1	No Gas	62.566	ug/l	63952.09
Na	23	45	3	He	92311.900	ug/l	28900033.18
Mg	24	45	3	He	37991.792	ug/l	6708139.83
Al	27	45	1	No Gas	28.012	ug/l	244605.06
Si	28	45	2	H2	22577.618	ug/l	21549136.83
K	39	72	3	He	2393.634	ug/l	581832.36
Ca	40	72	2	H2	37116.491	ug/l	139901066.14
Ti	47	72	1	No Gas	3.584	ug/l	3253.65
V	51	72	1	No Gas	10.760	ug/l	26478.15
V	51	72	3	He	7.396	ug/l	48532.17
Cr	52	72	1	No Gas	-1.083	ug/l	79197.05
Cr	52	72	3	He	1.181	ug/l	2998.11
Mn	55	72	1	No Gas	7.666	ug/l	107097.89
Mn	55	72	3	He	7.028	ug/l	8944.94
Fe	56	72	2	H2	211.712	ug/l	1503850.62
Fe	56	72	3	He	200.007	ug/l	343529.50
Co	59	72	1	No Gas	0.218	ug/l	2691.58
Ni	60	72	1	No Gas	0.874	ug/l	2462.00
Ni	60	72	3	He	0.649	ug/l	563.35
Cu	63	72	1	No Gas	1.319	ug/l	8784.19
Cu	63	72	3	He	1.130	ug/l	2441.72
Cu	65	72	1	No Gas	1.175	ug/l	3473.81
Zn	66	72	1	No Gas	3.088	ug/l	5872.92
Zn	66	72	3	He	3.002	ug/l	1376.74
As	75	72	1	No Gas	1.249	ug/l	21606.53
As	75	72	3	He	1.936	ug/l	1272.43
Se	78	72	2	H2	0.444	ug/l	153.45
Br	79	72	1	No Gas	21.642	ug/l	112938.10
Br	79	72	2	H2	18.490	ug/l	64248.10
Se	82	72	1	No Gas	0.930	ug/l	632.48
Kr	84	72	1	No Gas		ug/l	46239.02
Sr	88	72	1	No Gas	334.261	ug/l	5343332.85
Sr	88	72	3	He	316.806	ug/l	617244.43
Mo	95	115	1	No Gas	3.152	ug/l	11326.79
Mo	95	115	3	He	3.500	ug/l	4420.72
Mo	98	115	1	No Gas	3.169	ug/l	18526.82
Ag	107	115	1	No Gas	-0.050	ug/l	208.75
Ag	109	115	1	No Gas	-0.053	ug/l	199.42
Cd	111	115	1	No Gas	0.008	ug/l	10.78

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	6.22
Cd	114	115	1	No Gas	0.014	ug/l	9.73
Cd	114	115	3	He	0.002	ug/l	12.95
Sn	118	115	1	No Gas	0.718	ug/l	6525.31
Sn	118	115	3	He	1.025	ug/l	2133.51
Sb	121	115	1	No Gas	0.101	ug/l	1121.16
Sb	121	115	3	He	0.109	ug/l	320.04
Sb	123	115	1	No Gas	0.104	ug/l	887.12
Sb	123	115	3	He	0.114	ug/l	263.03
Ba	135	115	1	No Gas	10.989	ug/l	20920.88
Ba	137	115	1	No Gas	11.105	ug/l	36359.02
La	139	115	3	He	0.031	ug/l	297.78
Ce	140	115	3	He	0.074	ug/l	758.91
Hg	201	209	1	No Gas	0.097	ug/l	168.30
Hg	202	209	1	No Gas	2.030	ug/l	7440.60
Hg	202	209	3	He	1.514	ug/l	2858.74
Tl	203	209	3	He	0.099	ug/l	760.33
Tl	205	209	1	No Gas	0.075	ug/l	2902.56
Tl	205	209	3	He	0.090	ug/l	1723.47
[Pb]	206	209	1	No Gas	0.045	ug/l	3550.49
[Pb]	207	209	1	No Gas	0.057	ug/l	2953.69
Pb	208	209	1	No Gas	0.061	ug/l	13946.31
Th	232	209	3	He	0.066	ug/l	1163.85
U	238	209	1	No Gas	0.194	ug/l	5753.46

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1682483.36	65.8
Sc	45	2	H2	1023413.77	75.5
Sc	45	3	He	103777.27	65.0
Ge	72	1	No Gas	504976.50	75.4
Ge	72	2	H2	382120.19	83.9
Ge	72	3	He	78551.83	77.1
In	115	1	No Gas	3615955.78	79.2
In	115	3	He	857737.95	80.8
Tb	159	1	No Gas	5442377.97	85.8
Tb	159	3	He	2505170.89	94.5
Ho	165	1	No Gas	5403083.94	86.4
Ho	165	3	He	2507427.91	95.0
Lu	175	1	No Gas	5659399.57	89.2
Lu	175	3	He	2125020.96	96.0
Bi	209	1	No Gas	3940097.43	90.1
Bi	209	3	He	1976959.62	98.5

ICPMS207-B Analytical Data

Sample Name B22011592-027A
File Name 089SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:34:17
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	-0.819	ug/l	6996.42
Be	9	45	1	No Gas	-0.146	ug/l	56.32
B	11	45	1	No Gas	79.199	ug/l	115175.32
Na	23	45	3	He	50043.157	ug/l	22627507.72
Mg	24	45	3	He	19469.184	ug/l	4962661.16
Al	27	45	1	No Gas	-1.811	ug/l	23453.41
Si	28	45	2	H2	19282.632	ug/l	24499069.90
K	39	72	3	He	2078.442	ug/l	669038.03
Ca	40	72	2	H2	19314.222	ug/l	89438808.16
Ti	47	72	1	No Gas	1.012	ug/l	1346.42
V	51	72	1	No Gas	20.718	ug/l	166795.81
V	51	72	3	He	-5.506	ug/l	33920.22
Cr	52	72	1	No Gas	-6.248	ug/l	39351.42
Cr	52	72	3	He	0.823	ug/l	2991.43
Mn	55	72	1	No Gas	79.939	ug/l	1263710.87
Mn	55	72	3	He	78.522	ug/l	127593.04
Fe	56	72	2	H2	5.674	ug/l	64182.42
Fe	56	72	3	He	5.162	ug/l	18177.89
Co	59	72	1	No Gas	0.176	ug/l	2844.64
Ni	60	72	1	No Gas	3.212	ug/l	9637.41
Ni	60	72	3	He	3.264	ug/l	3182.59
Cu	63	72	1	No Gas	1.097	ug/l	9518.27
Cu	63	72	3	He	0.999	ug/l	2840.38
Cu	65	72	1	No Gas	1.088	ug/l	4096.90
Zn	66	72	1	No Gas	16.708	ug/l	38155.26
Zn	66	72	3	He	16.167	ug/l	9059.54
As	75	72	1	No Gas	-3.921	ug/l	12109.94
As	75	72	3	He	-0.259	ug/l	427.87
Se	78	72	2	H2	0.515	ug/l	212.34
Br	79	72	1	No Gas	25.323	ug/l	165836.34
Br	79	72	2	H2	22.684	ug/l	96187.33
Se	82	72	1	No Gas	0.921	ug/l	799.55
Kr	84	72	1	No Gas		ug/l	37290.96
Sr	88	72	1	No Gas	175.755	ug/l	3543114.25
Sr	88	72	3	He	161.117	ug/l	406026.51
Mo	95	115	1	No Gas	0.197	ug/l	938.93
Mo	95	115	3	He	0.236	ug/l	381.12
Mo	98	115	1	No Gas	0.206	ug/l	1573.43
Ag	107	115	1	No Gas	-0.055	ug/l	209.46
Ag	109	115	1	No Gas	-0.064	ug/l	124.72
Cd	111	115	1	No Gas	0.057	ug/l	140.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.053	ug/l	50.22
Cd	114	115	1	No Gas	0.062	ug/l	302.55
Cd	114	115	3	He	0.058	ug/l	129.63
Sn	118	115	1	No Gas	-0.241	ug/l	735.23
Sn	118	115	3	He	-0.217	ug/l	145.56
Sb	121	115	1	No Gas	0.176	ug/l	2407.12
Sb	121	115	3	He	0.180	ug/l	640.08
Sb	123	115	1	No Gas	0.173	ug/l	1821.63
Sb	123	115	3	He	0.183	ug/l	512.73
Ba	135	115	1	No Gas	11.150	ug/l	27316.00
Ba	137	115	1	No Gas	11.110	ug/l	46819.33
La	139	115	3	He	-0.001	ug/l	7.78
Ce	140	115	3	He	0.002	ug/l	36.66
Hg	201	209	1	No Gas	0.003	ug/l	19.33
Hg	202	209	1	No Gas	0.013	ug/l	79.32
Hg	202	209	3	He	0.012	ug/l	34.99
Tl	203	209	3	He	0.023	ug/l	477.54
Tl	205	209	1	No Gas	0.017	ug/l	2103.51
Tl	205	209	3	He	0.028	ug/l	1177.19
[Pb]	206	209	1	No Gas	-0.156	ug/l	2572.49
[Pb]	207	209	1	No Gas	-0.138	ug/l	2117.96
Pb	208	209	1	No Gas	-0.137	ug/l	10126.03
Th	232	209	3	He	0.000	ug/l	142.06
U	238	209	1	No Gas	0.027	ug/l	1039.17

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2399898.60	93.8
Sc	45	2	H2	1362804.94	100.5
Sc	45	3	He	149793.30	93.9
Ge	72	1	No Gas	636889.51	95.1
Ge	72	2	H2	469155.92	103.0
Ge	72	3	He	101587.25	99.7
In	115	1	No Gas	4648550.61	101.9
In	115	3	He	1074774.85	101.2
Tb	159	1	No Gas	7048705.44	111.1
Tb	159	3	He	2917738.31	110.1
Ho	165	1	No Gas	7025820.00	112.3
Ho	165	3	He	2929332.74	110.9
Lu	175	1	No Gas	7142781.59	112.6
Lu	175	3	He	2483684.20	112.2
Bi	209	1	No Gas	4920078.15	112.5
Bi	209	3	He	2237025.17	111.5

ICPMS207-B Analytical Data

Sample Name B22011592-027B
File Name 090SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:40:32
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	0.610	ug/l	10100.08
Be	9	45	1	No Gas	-0.126	ug/l	73.32
B	11	45	1	No Gas	79.993	ug/l	78672.33
Na	23	45	3	He	48840.158	ug/l	15404381.30
Mg	24	45	3	He	18633.238	ug/l	3312574.60
Al	27	45	1	No Gas	1.224	ug/l	38285.73
Si	28	45	2	H2	19739.919	ug/l	18609670.94
K	39	72	3	He	1843.369	ug/l	452553.11
Ca	40	72	2	H2	17731.477	ug/l	65249596.46
Ti	47	72	1	No Gas	1.237	ug/l	1236.30
V	51	72	1	No Gas	25.261	ug/l	175938.74
V	51	72	3	He	6.949	ug/l	46065.50
Cr	52	72	1	No Gas	-0.623	ug/l	82141.22
Cr	52	72	3	He	1.471	ug/l	3425.97
Mn	55	72	1	No Gas	76.100	ug/l	940293.19
Mn	55	72	3	He	77.050	ug/l	93381.36
Fe	56	72	2	H2	42.115	ug/l	301502.23
Fe	56	72	3	He	40.106	ug/l	70566.89
Co	59	72	1	No Gas	0.300	ug/l	3483.52
Ni	60	72	1	No Gas	2.693	ug/l	6392.11
Ni	60	72	3	He	2.722	ug/l	1994.60
Cu	63	72	1	No Gas	1.447	ug/l	9348.08
Cu	63	72	3	He	1.497	ug/l	3017.04
Cu	65	72	1	No Gas	1.437	ug/l	4076.88
Zn	66	72	1	No Gas	14.413	ug/l	25761.79
Zn	66	72	3	He	13.614	ug/l	5704.49
As	75	72	1	No Gas	-1.361	ug/l	15270.19
As	75	72	3	He	0.195	ug/l	506.93
Se	78	72	2	H2	0.568	ug/l	182.67
Br	79	72	1	No Gas	9.170	ug/l	49376.10
Br	79	72	2	H2	8.175	ug/l	28884.94
Se	82	72	1	No Gas	0.692	ug/l	593.81
Kr	84	72	1	No Gas		ug/l	28635.02
Sr	88	72	1	No Gas	168.637	ug/l	2654064.18
Sr	88	72	3	He	159.190	ug/l	299234.87
Mo	95	115	1	No Gas	0.260	ug/l	954.48
Mo	95	115	3	He	0.267	ug/l	340.01
Mo	98	115	1	No Gas	0.258	ug/l	1521.34
Ag	107	115	1	No Gas	-0.064	ug/l	74.70
Ag	109	115	1	No Gas	-0.067	ug/l	66.69
Cd	111	115	1	No Gas	0.160	ug/l	313.75

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.158	ug/l	109.55
Cd	114	115	1	No Gas	0.158	ug/l	678.50
Cd	114	115	3	He	0.160	ug/l	264.07
Sn	118	115	1	No Gas	0.630	ug/l	5939.53
Sn	118	115	3	He	0.880	ug/l	1882.36
Sb	121	115	1	No Gas	0.041	ug/l	517.73
Sb	121	115	3	He	0.045	ug/l	148.35
Sb	123	115	1	No Gas	0.043	ug/l	406.72
Sb	123	115	3	He	0.046	ug/l	118.34
Ba	135	115	1	No Gas	10.893	ug/l	20691.04
Ba	137	115	1	No Gas	11.136	ug/l	36372.31
La	139	115	3	He	0.003	ug/l	35.56
Ce	140	115	3	He	0.009	ug/l	95.55
Hg	201	209	1	No Gas	0.009	ug/l	25.33
Hg	202	209	1	No Gas	0.020	ug/l	92.31
Hg	202	209	3	He	0.014	ug/l	34.99
Tl	203	209	3	He	0.080	ug/l	686.96
Tl	205	209	1	No Gas	0.061	ug/l	2662.51
Tl	205	209	3	He	0.084	ug/l	1681.45
[Pb]	206	209	1	No Gas	0.018	ug/l	3410.46
[Pb]	207	209	1	No Gas	0.025	ug/l	2803.65
Pb	208	209	1	No Gas	0.022	ug/l	13034.78
Th	232	209	3	He	0.047	ug/l	871.05
U	238	209	1	No Gas	0.030	ug/l	932.52

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1624315.16	63.5
Sc	45	2	H2	1010736.74	74.5
Sc	45	3	He	104467.78	65.5
Ge	72	1	No Gas	497224.86	74.2
Ge	72	2	H2	372812.30	81.8
Ge	72	3	He	75786.27	74.4
In	115	1	No Gas	3604830.86	79.0
In	115	3	He	850009.37	80.1
Tb	159	1	No Gas	5704025.49	89.9
Tb	159	3	He	2478144.49	93.5
Ho	165	1	No Gas	5592916.42	89.4
Ho	165	3	He	2494832.66	94.5
Lu	175	1	No Gas	5807363.88	91.6
Lu	175	3	He	2075465.44	93.7
Bi	209	1	No Gas	4015195.19	91.8
Bi	209	3	He	2002592.45	99.8

ICPMS207-B Analytical Data

Sample Name B22011717-001A
File Name 091SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:46:46
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	1.025	ug/l	17324.88
Be	9	45	1	No Gas	-0.137	ug/l	79.32
B	11	45	1	No Gas	33.989	ug/l	50470.40
Na	23	45	3	He	32301.274	ug/l	14085967.85
Mg	24	45	3	He	9331.302	ug/l	2292783.30
Al	27	45	1	No Gas	1.841	ug/l	63661.80
Si	28	45	2	H2	20989.923	ug/l	26032731.49
K	39	72	3	He	3063.550	ug/l	892929.26
Ca	40	72	2	H2	10089.067	ug/l	44449592.61
Ti	47	72	1	No Gas	1.215	ug/l	1529.96
V	51	72	1	No Gas	23.910	ug/l	205084.69
V	51	72	3	He	-1.084	ug/l	42078.99
Cr	52	72	1	No Gas	-5.007	ug/l	52759.78
Cr	52	72	3	He	2.121	ug/l	5951.24
Mn	55	72	1	No Gas	-0.514	ug/l	7147.57
Mn	55	72	3	He	0.092	ug/l	300.94
Fe	56	72	2	H2	2.319	ug/l	33427.84
Fe	56	72	3	He	2.679	ug/l	12253.20
Co	59	72	1	No Gas	-0.002	ug/l	499.02
Ni	60	72	1	No Gas	0.152	ug/l	1064.60
Ni	60	72	3	He	0.171	ug/l	268.89
Cu	63	72	1	No Gas	0.402	ug/l	4553.88
Cu	63	72	3	He	0.366	ug/l	1257.81
Cu	65	72	1	No Gas	0.416	ug/l	1895.55
Zn	66	72	1	No Gas	12.508	ug/l	28086.76
Zn	66	72	3	He	11.859	ug/l	6415.90
As	75	72	1	No Gas	-4.116	ug/l	11310.65
As	75	72	3	He	-0.665	ug/l	194.60
Se	78	72	2	H2	0.080	ug/l	63.89
Br	79	72	1	No Gas	15.572	ug/l	101740.50
Br	79	72	2	H2	13.431	ug/l	55135.30
Se	82	72	1	No Gas	0.084	ug/l	640.21
Kr	84	72	1	No Gas		ug/l	25571.91
Sr	88	72	1	No Gas	80.677	ug/l	1592495.04
Sr	88	72	3	He	75.031	ug/l	181596.33
Mo	95	115	1	No Gas	0.108	ug/l	533.34
Mo	95	115	3	He	0.110	ug/l	176.67
Mo	98	115	1	No Gas	0.103	ug/l	809.54
Ag	107	115	1	No Gas	-0.060	ug/l	150.73
Ag	109	115	1	No Gas	-0.064	ug/l	127.38
Cd	111	115	1	No Gas	0.038	ug/l	91.87

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.024	ug/l	24.67
Cd	114	115	1	No Gas	0.038	ug/l	158.24
Cd	114	115	3	He	0.025	ug/l	62.56
Sn	118	115	1	No Gas	0.038	ug/l	2987.74
Sn	118	115	3	He	0.158	ug/l	884.48
Sb	121	115	1	No Gas	0.494	ug/l	6601.22
Sb	121	115	3	He	0.526	ug/l	1753.29
Sb	123	115	1	No Gas	0.492	ug/l	5059.09
Sb	123	115	3	He	0.539	ug/l	1415.22
Ba	135	115	1	No Gas	4.749	ug/l	11775.01
Ba	137	115	1	No Gas	4.619	ug/l	19708.39
La	139	115	3	He	0.002	ug/l	32.22
Ce	140	115	3	He	0.003	ug/l	46.67
Hg	201	209	1	No Gas	0.002	ug/l	19.00
Hg	202	209	1	No Gas	0.006	ug/l	51.66
Hg	202	209	3	He	0.006	ug/l	22.00
Tl	203	209	3	He	0.010	ug/l	422.18
Tl	205	209	1	No Gas	0.007	ug/l	1921.27
Tl	205	209	3	He	0.016	ug/l	1044.47
[Pb]	206	209	1	No Gas	-0.162	ug/l	2631.39
[Pb]	207	209	1	No Gas	-0.148	ug/l	2127.96
Pb	208	209	1	No Gas	-0.145	ug/l	10254.95
Th	232	209	3	He	-0.001	ug/l	130.05
U	238	209	1	No Gas	0.019	ug/l	775.20

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2415154.08	94.4
Sc	45	2	H2	1329724.83	98.1
Sc	45	3	He	144299.05	90.4
Ge	72	1	No Gas	623368.54	93.1
Ge	72	2	H2	445824.04	97.9
Ge	72	3	He	97589.76	95.8
In	115	1	No Gas	4701994.17	103.0
In	115	3	He	1045866.68	98.5
Tb	159	1	No Gas	6992675.45	110.2
Tb	159	3	He	2886555.41	108.9
Ho	165	1	No Gas	7006701.61	112.0
Ho	165	3	He	2894155.88	109.6
Lu	175	1	No Gas	7206568.92	113.6
Lu	175	3	He	2441377.78	110.3
Bi	209	1	No Gas	5140637.63	117.6
Bi	209	3	He	2288160.31	114.0

ICPMS207-B Analytical Data

Sample Name B22011717-001B
File Name 092SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:53:00
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	6.298	ug/l	30659.30
Be	9	45	1	No Gas	-0.133	ug/l	58.99
B	11	45	1	No Gas	36.490	ug/l	35451.90
Na	23	45	3	He	38389.677	ug/l	11548280.80
Mg	24	45	3	He	9475.716	ug/l	1607016.01
Al	27	45	1	No Gas	75.051	ug/l	568974.64
Si	28	45	2	H2	19273.142	ug/l	17466242.59
K	39	72	3	He	6903.315	ug/l	1395761.92
Ca	40	72	2	H2	9854.372	ug/l	35236111.12
Ti	47	72	1	No Gas	6.548	ug/l	5499.49
V	51	72	1	No Gas	22.232	ug/l	142274.00
V	51	72	3	He	12.062	ug/l	52493.50
Cr	52	72	1	No Gas	1.471	ug/l	97830.30
Cr	52	72	3	He	3.504	ug/l	6894.98
Mn	55	72	1	No Gas	3.394	ug/l	51525.19
Mn	55	72	3	He	2.567	ug/l	3104.71
Fe	56	72	2	H2	218.443	ug/l	1468810.32
Fe	56	72	3	He	208.558	ug/l	331981.63
Co	59	72	1	No Gas	0.165	ug/l	2042.77
Ni	60	72	1	No Gas	1.213	ug/l	3051.00
Ni	60	72	3	He	1.315	ug/l	970.04
Cu	63	72	1	No Gas	4.129	ug/l	23187.05
Cu	63	72	3	He	4.721	ug/l	8490.11
Cu	65	72	1	No Gas	4.330	ug/l	10953.20
Zn	66	72	1	No Gas	249.300	ug/l	424901.17
Zn	66	72	3	He	247.505	ug/l	98216.73
As	75	72	1	No Gas	-2.150	ug/l	13136.84
As	75	72	3	He	0.164	ug/l	475.40
Se	78	72	2	H2	0.170	ug/l	75.11
Br	79	72	1	No Gas	5.862	ug/l	31798.54
Br	79	72	2	H2	4.780	ug/l	17236.14
Se	82	72	1	No Gas	0.290	ug/l	519.41
Kr	84	72	1	No Gas		ug/l	22353.04
Sr	88	72	1	No Gas	94.782	ug/l	1441331.27
Sr	88	72	3	He	89.304	ug/l	161421.49
Mo	95	115	1	No Gas	0.297	ug/l	1071.16
Mo	95	115	3	He	0.337	ug/l	410.01
Mo	98	115	1	No Gas	0.286	ug/l	1666.92
Ag	107	115	1	No Gas	-0.045	ug/l	252.77
Ag	109	115	1	No Gas	-0.046	ug/l	256.10
Cd	111	115	1	No Gas	0.030	ug/l	53.45

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.017	ug/l	14.78
Cd	114	115	1	No Gas	0.014	ug/l	9.69
Cd	114	115	3	He	-0.015	ug/l	-12.45
Sn	118	115	1	No Gas	6.215	ug/l	39914.19
Sn	118	115	3	He	7.226	ug/l	11597.06
Sb	121	115	1	No Gas	3.187	ug/l	31705.45
Sb	121	115	3	He	3.369	ug/l	8603.49
Sb	123	115	1	No Gas	3.197	ug/l	24474.03
Sb	123	115	3	He	3.446	ug/l	6938.74
Ba	135	115	1	No Gas	13.720	ug/l	25746.07
Ba	137	115	1	No Gas	14.201	ug/l	45844.57
La	139	115	3	He	0.056	ug/l	502.24
Ce	140	115	3	He	0.102	ug/l	983.37
Hg	201	209	1	No Gas	0.008	ug/l	24.99
Hg	202	209	1	No Gas	0.019	ug/l	91.32
Hg	202	209	3	He	0.018	ug/l	42.99
Tl	203	209	3	He	0.070	ug/l	644.94
Tl	205	209	1	No Gas	0.054	ug/l	2642.50
Tl	205	209	3	He	0.071	ug/l	1553.38
[Pb]	206	209	1	No Gas	0.237	ug/l	5335.55
[Pb]	207	209	1	No Gas	0.236	ug/l	4399.64
Pb	208	209	1	No Gas	0.247	ug/l	20831.01
Th	232	209	3	He	0.048	ug/l	896.39
U	238	209	1	No Gas	0.029	ug/l	939.52

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1583844.51	61.9
Sc	45	2	H2	971625.59	71.7
Sc	45	3	He	99602.70	62.4
Ge	72	1	No Gas	480263.19	71.7
Ge	72	2	H2	361809.43	79.4
Ge	72	3	He	72876.83	71.5
In	115	1	No Gas	3561246.16	78.0
In	115	3	He	814230.35	76.7
Tb	159	1	No Gas	5742420.40	90.5
Tb	159	3	He	2474763.24	93.4
Ho	165	1	No Gas	5639989.79	90.2
Ho	165	3	He	2502539.69	94.8
Lu	175	1	No Gas	5889686.51	92.9
Lu	175	3	He	2078487.24	93.9
Bi	209	1	No Gas	4223461.41	96.6
Bi	209	3	He	2021969.68	100.8

ICPMS207-B Analytical Data

Sample Name B22011717-001BDIL
File Name 093SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 21:59:13
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	6.307	ug/l	13140.29
Be	9	45	1	No Gas	-0.703	ug/l	49.99
B	11	45	1	No Gas	46.099	ug/l	10321.02
Na	23	45	3	He	40092.035	ug/l	2577601.56
Mg	24	45	3	He	9677.890	ug/l	349163.45
Al	27	45	1	No Gas	66.853	ug/l	134135.91
Si	28	45	2	H2	19094.735	ug/l	3627294.42
K	39	72	3	He	6257.580	ug/l	343094.56
Ca	40	72	2	H2	9834.833	ug/l	7433455.69
Ti	47	72	1	No Gas	5.223	ug/l	1084.58
V	51	72	1	No Gas	69.848	ug/l	60488.28
V	51	72	3	He	-22.970	ug/l	27407.84
Cr	52	72	1	No Gas	-17.003	ug/l	57148.00
Cr	52	72	3	He	3.622	ug/l	2092.38
Mn	55	72	1	No Gas	2.521	ug/l	18231.86
Mn	55	72	3	He	2.528	ug/l	750.54
Fe	56	72	2	H2	216.518	ug/l	314323.87
Fe	56	72	3	He	206.523	ug/l	74089.77
Co	59	72	1	No Gas	0.133	ug/l	698.63
Ni	60	72	1	No Gas	0.797	ug/l	871.63
Ni	60	72	3	He	1.024	ug/l	237.78
Cu	63	72	1	No Gas	4.487	ug/l	6383.30
Cu	63	72	3	He	5.331	ug/l	2289.06
Cu	65	72	1	No Gas	4.776	ug/l	2884.78
Zn	66	72	1	No Gas	262.945	ug/l	93695.36
Zn	66	72	3	He	251.500	ug/l	21288.95
As	75	72	1	No Gas	-2.040	ug/l	17702.70
As	75	72	3	He	-1.338	ug/l	322.53
Se	78	72	2	H2	0.044	ug/l	35.11
Br	79	72	1	No Gas	320.839	ug/l	324262.66
Br	79	72	2	H2	304.208	ug/l	204500.50
Se	82	72	1	No Gas	6.533	ug/l	679.14
Kr	84	72	1	No Gas		ug/l	15058.03
Sr	88	72	1	No Gas	94.226	ug/l	298732.50
Sr	88	72	3	He	88.036	ug/l	33847.71
Mo	95	115	1	No Gas	0.310	ug/l	268.89
Mo	95	115	3	He	0.267	ug/l	74.45
Mo	98	115	1	No Gas	0.269	ug/l	368.21
Ag	107	115	1	No Gas	-0.304	ug/l	116.71
Ag	109	115	1	No Gas	-0.319	ug/l	108.71
Cd	111	115	1	No Gas	0.033	ug/l	7.77

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.036	ug/l	9.00
Cd	114	115	1	No Gas	0.068	ug/l	6.69
Cd	114	115	3	He	0.001	ug/l	11.11
Sn	118	115	1	No Gas	5.960	ug/l	10313.36
Sn	118	115	3	He	7.359	ug/l	2896.98
Sb	121	115	1	No Gas	3.104	ug/l	6944.08
Sb	121	115	3	He	3.500	ug/l	1929.00
Sb	123	115	1	No Gas	3.166	ug/l	5448.28
Sb	123	115	3	He	3.577	ug/l	1553.58
Ba	135	115	1	No Gas	13.653	ug/l	5696.54
Ba	137	115	1	No Gas	13.260	ug/l	9521.05
La	139	115	3	He	0.046	ug/l	97.78
Ce	140	115	3	He	0.108	ug/l	226.67
Hg	201	209	1	No Gas	0.015	ug/l	18.67
Hg	202	209	1	No Gas	0.046	ug/l	59.32
Hg	202	209	3	He	0.039	ug/l	24.33
Tl	203	209	3	He	0.130	ug/l	466.86
Tl	205	209	1	No Gas	0.078	ug/l	1952.38
Tl	205	209	3	He	0.143	ug/l	1117.83
[Pb]	206	209	1	No Gas	-0.364	ug/l	3158.17
[Pb]	207	209	1	No Gas	-0.269	ug/l	2641.39
Pb	208	209	1	No Gas	-0.325	ug/l	12071.08
Th	232	209	3	He	0.027	ug/l	228.09
U	238	209	1	No Gas	0.027	ug/l	224.96

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1701616.69	66.5
Sc	45	2	H2	1017158.66	75.0
Sc	45	3	He	105439.84	66.1
Ge	72	1	No Gas	500329.14	74.7
Ge	72	2	H2	378427.08	83.1
Ge	72	3	He	77449.91	76.0
In	115	1	No Gas	3951785.77	86.6
In	115	3	He	868488.78	81.8
Tb	159	1	No Gas	6187688.46	97.5
Tb	159	3	He	2585037.29	97.5
Ho	165	1	No Gas	6198131.87	99.1
Ho	165	3	He	2599106.96	98.4
Lu	175	1	No Gas	6466165.00	102.0
Lu	175	3	He	2147847.38	97.0
Bi	209	1	No Gas	4645395.72	106.2
Bi	209	3	He	2114395.64	105.4

ICPMS207-B Analytical Data

Sample Name B22011717-001BPDS1
File Name 094ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:05:27
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	1375.519	ug/l	4744177.35
Be	9	45	1	No Gas	33.637	ug/l	54335.75
B	11	45	1	No Gas	75.022	ug/l	67758.11
Na	23	45	3	He	92044.819	ug/l	27579049.86
Mg	24	45	3	He	60514.946	ug/l	10223603.26
Al	27	45	1	No Gas	114.358	ug/l	801983.06
Si	28	45	2	H2	19333.570	ug/l	16932669.18
K	39	72	3	He	48987.445	ug/l	9399926.73
Ca	40	72	2	H2	52975.598	ug/l	182280751.00
Ti	47	72	1	No Gas	50.770	ug/l	40249.42
V	51	72	1	No Gas	68.706	ug/l	590521.41
V	51	72	3	He	69.954	ug/l	146503.86
Cr	52	72	1	No Gas	48.238	ug/l	501367.00
Cr	52	72	3	He	50.884	ug/l	90952.10
Mn	55	72	1	No Gas	49.833	ug/l	584138.20
Mn	55	72	3	He	50.724	ug/l	59232.44
Fe	56	72	2	H2	5179.498	ug/l	33322999.33
Fe	56	72	3	He	5192.879	ug/l	8158807.17
Co	59	72	1	No Gas	44.385	ug/l	426924.17
Ni	60	72	1	No Gas	45.775	ug/l	94578.04
Ni	60	72	3	He	50.955	ug/l	34420.50
Cu	63	72	1	No Gas	48.823	ug/l	252711.89
Cu	63	72	3	He	57.556	ug/l	100209.07
Cu	65	72	1	No Gas	50.445	ug/l	119899.81
Zn	66	72	1	No Gas	292.594	ug/l	486586.53
Zn	66	72	3	He	288.257	ug/l	114534.37
As	75	72	1	No Gas	56.907	ug/l	141917.86
As	75	72	3	He	51.388	ug/l	20895.98
Se	78	72	2	H2	51.409	ug/l	12766.81
Br	79	72	1	No Gas	7.434	ug/l	38468.35
Br	79	72	2	H2	6.161	ug/l	20920.29
Se	82	72	1	No Gas	52.181	ug/l	7081.85
Kr	84	72	1	No Gas		ug/l	25758.65
Sr	88	72	1	No Gas	142.675	ug/l	2115679.84
Sr	88	72	3	He	136.511	ug/l	247021.41
Mo	95	115	1	No Gas	45.410	ug/l	150192.24
Mo	95	115	3	He	51.086	ug/l	59422.12
Mo	98	115	1	No Gas	46.096	ug/l	248260.48
Ag	107	115	1	No Gas	19.281	ug/l	169815.39
Ag	109	115	1	No Gas	19.280	ug/l	162594.05
Cd	111	115	1	No Gas	51.545	ug/l	95000.36

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.056	ug/l	32982.55
Cd	114	115	1	No Gas	49.842	ug/l	214924.12
Cd	114	115	3	He	55.419	ug/l	81929.85
Sn	118	115	1	No Gas	56.670	ug/l	325480.33
Sn	118	115	3	He	59.899	ug/l	90276.77
Sb	121	115	1	No Gas	53.773	ug/l	499537.48
Sb	121	115	3	He	55.640	ug/l	137646.72
Sb	123	115	1	No Gas	54.310	ug/l	388282.76
Sb	123	115	3	He	56.160	ug/l	109532.35
Ba	135	115	1	No Gas	65.819	ug/l	115609.31
Ba	137	115	1	No Gas	66.848	ug/l	201859.80
La	139	115	3	He	0.051	ug/l	448.90
Ce	140	115	3	He	54.749	ug/l	511097.14
Hg	201	209	1	No Gas	0.980	ug/l	1620.11
Hg	202	209	1	No Gas	0.978	ug/l	3629.11
Hg	202	209	3	He	1.053	ug/l	1871.76
Tl	203	209	3	He	50.091	ug/l	209521.41
Tl	205	209	1	No Gas	49.530	ug/l	1048649.14
Tl	205	209	3	He	48.651	ug/l	506234.96
[Pb]	206	209	1	No Gas	48.104	ug/l	363969.10
[Pb]	207	209	1	No Gas	49.031	ug/l	321089.90
Pb	208	209	1	No Gas	48.978	ug/l	1471492.79
Th	232	209	3	He	49.991	ug/l	736947.54
U	238	209	1	No Gas	52.692	ug/l	1564781.77

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1534632.56	60.0
Sc	45	2	H2	967186.76	71.3
Sc	45	3	He	102327.95	64.1
Ge	72	1	No Gas	482348.11	72.0
Ge	72	2	H2	359510.86	78.9
Ge	72	3	He	75146.80	73.8
In	115	1	No Gas	3434775.12	75.3
In	115	3	He	814842.24	76.7
Tb	159	1	No Gas	5509703.31	86.9
Tb	159	3	He	2398362.52	90.5
Ho	165	1	No Gas	5478918.36	87.6
Ho	165	3	He	2440148.40	92.4
Lu	175	1	No Gas	5835839.44	92.0
Lu	175	3	He	2033809.58	91.9
Bi	209	1	No Gas	4093984.44	93.6
Bi	209	3	He	1915149.88	95.4

ICPMS207-B Analytical Data

Sample Name CCV
File Name 095_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:11:41
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	442.516	ug/l	2091288.43
Be	9	45	1	No Gas	41.883	ug/l	92335.31
B	11	45	1	No Gas	47.592	ug/l	59105.21
Na	23	45	3	He	13312.590	ug/l	5302527.00
Mg	24	45	3	He	13062.287	ug/l	2916892.69
Al	27	45	1	No Gas	44.979	ug/l	453235.21
Si	28	45	2	H2	229.448	ug/l	256710.90
K	39	72	3	He	11183.224	ug/l	2729261.56
Ca	40	72	2	H2	11538.380	ug/l	46747617.22
Ti	47	72	1	No Gas	48.293	ug/l	48148.13
V	51	72	1	No Gas	54.668	ug/l	572887.93
V	51	72	3	He	47.309	ug/l	134722.08
Cr	52	72	1	No Gas	47.704	ug/l	621709.79
Cr	52	72	3	He	53.292	ug/l	117509.65
Mn	55	72	1	No Gas	53.740	ug/l	791019.31
Mn	55	72	3	He	54.114	ug/l	77978.30
Fe	56	72	2	H2	1320.940	ug/l	10001048.40
Fe	56	72	3	He	1283.149	ug/l	2492959.57
Co	59	72	1	No Gas	50.983	ug/l	616562.71
Ni	60	72	1	No Gas	52.648	ug/l	136598.61
Ni	60	72	3	He	55.617	ug/l	46353.20
Cu	63	72	1	No Gas	52.480	ug/l	341696.98
Cu	63	72	3	He	58.618	ug/l	125956.05
Cu	65	72	1	No Gas	54.768	ug/l	163692.96
Zn	66	72	1	No Gas	60.434	ug/l	126698.45
Zn	66	72	3	He	58.256	ug/l	28653.73
As	75	72	1	No Gas	54.513	ug/l	171319.69
As	75	72	3	He	55.761	ug/l	27927.43
Se	78	72	2	H2	57.685	ug/l	16831.38
Br	79	72	1	No Gas	1.087	ug/l	10975.77
Br	79	72	2	H2	1.029	ug/l	6016.02
Se	82	72	1	No Gas	58.139	ug/l	9837.40
Kr	84	72	1	No Gas		ug/l	21646.74
Sr	88	72	1	No Gas	58.378	ug/l	1089284.00
Sr	88	72	3	He	56.367	ug/l	125925.39
Mo	95	115	1	No Gas	48.581	ug/l	199203.66
Mo	95	115	3	He	53.085	ug/l	73625.48
Mo	98	115	1	No Gas	48.243	ug/l	322168.02
Ag	107	115	1	No Gas	20.474	ug/l	223595.13
Ag	109	115	1	No Gas	20.600	ug/l	215430.92
Cd	111	115	1	No Gas	56.572	ug/l	129321.60

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	58.406	ug/l	43285.24
Cd	114	115	1	No Gas	54.708	ug/l	292579.01
Cd	114	115	3	He	60.565	ug/l	106738.56
Sn	118	115	1	No Gas	50.725	ug/l	361448.24
Sn	118	115	3	He	56.065	ug/l	100742.52
Sb	121	115	1	No Gas	54.743	ug/l	630645.51
Sb	121	115	3	He	55.981	ug/l	165103.60
Sb	123	115	1	No Gas	54.184	ug/l	480487.94
Sb	123	115	3	He	56.579	ug/l	131568.15
Ba	135	115	1	No Gas	56.173	ug/l	122460.11
Ba	137	115	1	No Gas	56.943	ug/l	213390.41
La	139	115	3	He	53.125	ug/l	541789.60
Ce	140	115	3	He	53.150	ug/l	591542.62
Hg	201	209	1	No Gas	0.958	ug/l	1856.09
Hg	202	209	1	No Gas	0.977	ug/l	4246.83
Hg	202	209	3	He	0.992	ug/l	2013.75
Tl	203	209	3	He	52.469	ug/l	250347.60
Tl	205	209	1	No Gas	53.394	ug/l	1324749.82
Tl	205	209	3	He	51.485	ug/l	611135.01
[Pb]	206	209	1	No Gas	52.513	ug/l	465007.10
[Pb]	207	209	1	No Gas	51.991	ug/l	398695.85
Pb	208	209	1	No Gas	53.269	ug/l	1873520.65
Th	232	209	3	He	52.165	ug/l	877389.24
U	238	209	1	No Gas	55.615	ug/l	1935287.81

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2035638.83	79.6
Sc	45	2	H2	1166110.00	86.0
Sc	45	3	He	131233.00	82.3
Ge	72	1	No Gas	589692.28	88.0
Ge	72	2	H2	410099.86	90.0
Ge	72	3	He	90043.19	88.4
In	115	1	No Gas	4137802.21	90.7
In	115	3	He	943090.34	88.8
Tb	159	1	No Gas	6415801.25	101.1
Tb	159	3	He	2616012.07	98.7
Ho	165	1	No Gas	6395077.61	102.3
Ho	165	3	He	2619445.50	99.2
Lu	175	1	No Gas	6775042.93	106.8
Lu	175	3	He	2220571.07	100.3
Bi	209	1	No Gas	4660506.32	106.6
Bi	209	3	He	2121617.91	105.7

ICPMS207-B Analytical Data

Sample Name CCB
File Name 096_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:17:55
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	0.556	ug/l	12444.10
Be	9	45	1	No Gas	-0.116	ug/l	113.98
B	11	45	1	No Gas	2.424	ug/l	4076.86
Na	23	45	3	He	89.956	ug/l	69074.04
Mg	24	45	3	He	5.302	ug/l	3566.72
Al	27	45	1	No Gas	-2.829	ug/l	10494.83
Si	28	45	2	H2	9.265	ug/l	16835.56
K	39	72	3	He	-108.422	ug/l	76219.68
Ca	40	72	2	H2	-4.740	ug/l	84662.68
Ti	47	72	1	No Gas	-0.056	ug/l	178.51
V	51	72	1	No Gas	7.558	ug/l	-7686.49
V	51	72	3	He	-6.428	ug/l	26939.12
Cr	52	72	1	No Gas	-3.161	ug/l	67387.90
Cr	52	72	3	He	0.016	ug/l	845.58
Mn	55	72	1	No Gas	-0.195	ug/l	10952.43
Mn	55	72	3	He	-0.022	ug/l	108.31
Fe	56	72	2	H2	-0.755	ug/l	7436.05
Fe	56	72	3	He	-1.051	ug/l	3879.42
Co	59	72	1	No Gas	-0.012	ug/l	345.99
Ni	60	72	1	No Gas	-0.124	ug/l	282.78
Ni	60	72	3	He	-0.066	ug/l	48.89
Cu	63	72	1	No Gas	0.028	ug/l	1816.18
Cu	63	72	3	He	0.111	ug/l	587.90
Cu	65	72	1	No Gas	0.084	ug/l	774.33
Zn	66	72	1	No Gas	-0.002	ug/l	376.89
Zn	66	72	3	He	-0.038	ug/l	84.44
As	75	72	1	No Gas	-2.142	ug/l	15478.29
As	75	72	3	He	-0.245	ug/l	368.33
Se	78	72	2	H2	0.001	ug/l	35.66
Br	79	72	1	No Gas	0.765	ug/l	8778.60
Br	79	72	2	H2	0.667	ug/l	4678.16
Se	82	72	1	No Gas	-0.355	ug/l	515.28
Kr	84	72	1	No Gas		ug/l	14651.69
Sr	88	72	1	No Gas	-0.001	ug/l	206.26
Sr	88	72	3	He	0.005	ug/l	54.45
Mo	95	115	1	No Gas	0.020	ug/l	112.22
Mo	95	115	3	He	0.016	ug/l	28.89
Mo	98	115	1	No Gas	0.027	ug/l	210.00
Ag	107	115	1	No Gas	0.005	ug/l	847.03
Ag	109	115	1	No Gas	-0.002	ug/l	771.66
Cd	111	115	1	No Gas	0.012	ug/l	21.36

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	9.56
Cd	114	115	1	No Gas	0.010	ug/l	-12.92
Cd	114	115	3	He	0.006	ug/l	22.83
Sn	118	115	1	No Gas	-0.055	ug/l	1996.19
Sn	118	115	3	He	-0.033	ug/l	458.90
Sb	121	115	1	No Gas	0.148	ug/l	1840.64
Sb	121	115	3	He	0.126	ug/l	405.05
Sb	123	115	1	No Gas	0.144	ug/l	1380.54
Sb	123	115	3	He	0.128	ug/l	323.04
Ba	135	115	1	No Gas	0.007	ug/l	26.61
Ba	137	115	1	No Gas	0.002	ug/l	33.27
La	139	115	3	He	-0.001	ug/l	5.55
Ce	140	115	3	He	0.001	ug/l	15.55
Hg	201	209	1	No Gas	0.007	ug/l	26.66
Hg	202	209	1	No Gas	0.014	ug/l	79.98
Hg	202	209	3	He	0.008	ug/l	25.66
Tl	203	209	3	He	0.198	ug/l	1301.92
Tl	205	209	1	No Gas	0.156	ug/l	5574.55
Tl	205	209	3	He	0.204	ug/l	3232.36
[Pb]	206	209	1	No Gas	-0.183	ug/l	2256.88
[Pb]	207	209	1	No Gas	-0.159	ug/l	1894.59
Pb	208	209	1	No Gas	-0.164	ug/l	8852.33
Th	232	209	3	He	0.088	ug/l	1624.75
U	238	209	1	No Gas	0.004	ug/l	194.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2041966.04	79.8
Sc	45	2	H2	1133671.18	83.6
Sc	45	3	He	124199.67	77.8
Ge	72	1	No Gas	567918.75	84.8
Ge	72	2	H2	407398.10	89.4
Ge	72	3	He	85901.35	84.3
In	115	1	No Gas	4188822.13	91.8
In	115	3	He	949075.12	89.4
Tb	159	1	No Gas	6359664.59	100.3
Tb	159	3	He	2656715.87	100.2
Ho	165	1	No Gas	6295083.82	100.7
Ho	165	3	He	2644044.60	100.1
Lu	175	1	No Gas	6597780.36	104.0
Lu	175	3	He	2203954.21	99.5
Bi	209	1	No Gas	4774809.00	109.2
Bi	209	3	He	2140694.84	106.7

ICPMS207-B Analytical Data

Sample Name B22011717-001BMS4
File Name 097MS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:24:09
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	69.667	ug/l	274806.11
Be	9	45	1	No Gas	36.976	ug/l	66417.96
B	11	45	1	No Gas	122.592	ug/l	122573.27
Na	23	45	3	He	43947.665	ug/l	13999199.51
Mg	24	45	3	He	14500.679	ug/l	2603176.14
Al	27	45	1	No Gas	530.003	ug/l	4024521.74
Si	28	45	2	H2	21823.675	ug/l	20453888.92
K	39	72	3	He	11324.534	ug/l	2355222.41
Ca	40	72	2	H2	14016.930	ug/l	51377782.64
Ti	47	72	1	No Gas	89.620	ug/l	77494.82
V	51	72	1	No Gas	93.327	ug/l	912569.01
V	51	72	3	He	113.712	ug/l	227051.99
Cr	52	72	1	No Gas	93.520	ug/l	971758.34
Cr	52	72	3	He	100.996	ug/l	189232.25
Mn	55	72	1	No Gas	491.681	ug/l	6186727.95
Mn	55	72	3	He	498.526	ug/l	611545.54
Fe	56	72	2	H2	712.816	ug/l	4890036.69
Fe	56	72	3	He	691.436	ug/l	1147846.74
Co	59	72	1	No Gas	91.983	ug/l	966599.57
Ni	60	72	1	No Gas	94.331	ug/l	212383.27
Ni	60	72	3	He	105.171	ug/l	74667.76
Cu	63	72	1	No Gas	97.833	ug/l	552127.02
Cu	63	72	3	He	114.608	ug/l	209667.07
Cu	65	72	1	No Gas	103.167	ug/l	267479.97
Zn	66	72	1	No Gas	348.977	ug/l	634297.07
Zn	66	72	3	He	347.005	ug/l	145074.85
As	75	72	1	No Gas	104.152	ug/l	267007.48
As	75	72	3	He	103.468	ug/l	43816.23
Se	78	72	2	H2	105.195	ug/l	27752.95
Br	79	72	1	No Gas	4.057	ug/l	24722.11
Br	79	72	2	H2	3.945	ug/l	14954.76
Se	82	72	1	No Gas	107.548	ug/l	15380.95
Kr	84	72	1	No Gas		ug/l	32685.66
Sr	88	72	1	No Gas	195.389	ug/l	3167200.60
Sr	88	72	3	He	194.387	ug/l	370200.42
Mo	95	115	1	No Gas	92.066	ug/l	328068.90
Mo	95	115	3	He	101.517	ug/l	124924.97
Mo	98	115	1	No Gas	92.140	ug/l	534479.92
Ag	107	115	1	No Gas	9.345	ug/l	89008.46
Ag	109	115	1	No Gas	9.394	ug/l	85682.66
Cd	111	115	1	No Gas	52.455	ug/l	104132.67

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.951	ug/l	36133.51
Cd	114	115	1	No Gas	50.987	ug/l	236844.18
Cd	114	115	3	He	56.779	ug/l	88786.49
Sn	118	115	1	No Gas	107.730	ug/l	664596.45
Sn	118	115	3	He	116.776	ug/l	185661.26
Sb	121	115	1	No Gas	108.072	ug/l	1081434.84
Sb	121	115	3	He	111.589	ug/l	291966.77
Sb	123	115	1	No Gas	110.160	ug/l	848403.69
Sb	123	115	3	He	114.300	ug/l	235798.92
Ba	135	115	1	No Gas	112.219	ug/l	212415.40
Ba	137	115	1	No Gas	112.307	ug/l	365435.25
La	139	115	3	He	111.336	ug/l	1007497.14
Ce	140	115	3	He	110.488	ug/l	1090980.58
Hg	201	209	1	No Gas	0.019	ug/l	43.99
Hg	202	209	1	No Gas	0.030	ug/l	132.31
Hg	202	209	3	He	0.030	ug/l	64.32
Tl	203	209	3	He	102.747	ug/l	451998.22
Tl	205	209	1	No Gas	103.477	ug/l	2287443.30
Tl	205	209	3	He	99.432	ug/l	1088240.76
[Pb]	206	209	1	No Gas	98.017	ug/l	771118.16
[Pb]	207	209	1	No Gas	99.412	ug/l	677111.02
Pb	208	209	1	No Gas	101.664	ug/l	3176612.75
Th	232	209	3	He	104.900	ug/l	1627541.81
U	238	209	1	No Gas	106.945	ug/l	3318309.52

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1657182.20	64.8
Sc	45	2	H2	1004798.21	74.1
Sc	45	3	He	105480.08	66.1
Ge	72	1	No Gas	511959.77	76.4
Ge	72	2	H2	371157.45	81.5
Ge	72	3	He	76770.08	75.4
In	115	1	No Gas	3593705.40	78.8
In	115	3	He	836733.40	78.8
Tb	159	1	No Gas	5662271.29	89.3
Tb	159	3	He	2424399.26	91.5
Ho	165	1	No Gas	5724832.65	91.5
Ho	165	3	He	2474041.09	93.7
Lu	175	1	No Gas	5963216.24	94.0
Lu	175	3	He	2085158.24	94.2
Bi	209	1	No Gas	4153275.25	95.0
Bi	209	3	He	1956982.66	97.5

ICPMS207-B Analytical Data

Sample Name B22011717-001BMSD4
File Name 098MSD4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:30:22
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	63.979	ug/l	240516.33
Be	9	45	1	No Gas	34.908	ug/l	59632.48
B	11	45	1	No Gas	119.752	ug/l	113842.30
Na	23	45	3	He	43285.565	ug/l	13228859.25
Mg	24	45	3	He	14402.728	ug/l	2480953.60
Al	27	45	1	No Gas	507.968	ug/l	3670411.06
Si	28	45	2	H2	21876.205	ug/l	20225989.59
K	39	72	3	He	10690.203	ug/l	2175835.94
Ca	40	72	2	H2	14045.010	ug/l	51056539.33
Ti	47	72	1	No Gas	86.930	ug/l	73335.93
V	51	72	1	No Gas	95.628	ug/l	918547.33
V	51	72	3	He	110.875	ug/l	217015.13
Cr	52	72	1	No Gas	90.427	ug/l	919612.77
Cr	52	72	3	He	99.963	ug/l	182888.30
Mn	55	72	1	No Gas	478.936	ug/l	5878181.29
Mn	55	72	3	He	492.549	ug/l	589975.36
Fe	56	72	2	H2	700.399	ug/l	4765154.47
Fe	56	72	3	He	703.136	ug/l	1139757.15
Co	59	72	1	No Gas	89.691	ug/l	919449.16
Ni	60	72	1	No Gas	93.525	ug/l	205386.37
Ni	60	72	3	He	104.760	ug/l	72622.91
Cu	63	72	1	No Gas	97.497	ug/l	536761.79
Cu	63	72	3	He	114.356	ug/l	204279.74
Cu	65	72	1	No Gas	102.718	ug/l	259799.96
Zn	66	72	1	No Gas	350.257	ug/l	621074.95
Zn	66	72	3	He	349.842	ug/l	142817.55
As	75	72	1	No Gas	105.647	ug/l	264017.51
As	75	72	3	He	102.877	ug/l	42542.18
Se	78	72	2	H2	105.237	ug/l	27531.87
Br	79	72	1	No Gas	4.887	ug/l	28241.68
Br	79	72	2	H2	4.885	ug/l	17865.64
Se	82	72	1	No Gas	105.775	ug/l	14765.14
Kr	84	72	1	No Gas		ug/l	32172.04
Sr	88	72	1	No Gas	201.862	ug/l	3192781.21
Sr	88	72	3	He	194.095	ug/l	360916.01
Mo	95	115	1	No Gas	94.238	ug/l	327321.74
Mo	95	115	3	He	99.843	ug/l	121551.00
Mo	98	115	1	No Gas	91.990	ug/l	520309.84
Ag	107	115	1	No Gas	9.534	ug/l	88514.07
Ag	109	115	1	No Gas	9.625	ug/l	85565.08
Cd	111	115	1	No Gas	53.743	ug/l	104018.59

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.688	ug/l	35575.43
Cd	114	115	1	No Gas	52.137	ug/l	236119.69
Cd	114	115	3	He	56.748	ug/l	87788.16
Sn	118	115	1	No Gas	110.552	ug/l	664576.17
Sn	118	115	3	He	114.872	ug/l	180695.44
Sb	121	115	1	No Gas	110.126	ug/l	1074279.49
Sb	121	115	3	He	111.078	ug/l	287533.37
Sb	123	115	1	No Gas	112.428	ug/l	844065.71
Sb	123	115	3	He	113.213	ug/l	231057.81
Ba	135	115	1	No Gas	115.941	ug/l	213927.70
Ba	137	115	1	No Gas	116.978	ug/l	371180.25
La	139	115	3	He	109.182	ug/l	977487.97
Ce	140	115	3	He	111.802	ug/l	1092173.75
Hg	201	209	1	No Gas	0.012	ug/l	32.99
Hg	202	209	1	No Gas	0.025	ug/l	116.65
Hg	202	209	3	He	0.021	ug/l	47.32
Tl	203	209	3	He	102.063	ug/l	451150.94
Tl	205	209	1	No Gas	101.038	ug/l	2260664.81
Tl	205	209	3	He	99.328	ug/l	1092216.66
[Pb]	206	209	1	No Gas	99.039	ug/l	788458.87
[Pb]	207	209	1	No Gas	101.677	ug/l	700814.46
Pb	208	209	1	No Gas	101.865	ug/l	3220965.79
Th	232	209	3	He	105.031	ug/l	1637169.50
U	238	209	1	No Gas	106.644	ug/l	3348328.23

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1576404.77	61.6
Sc	45	2	H2	991448.09	73.1
Sc	45	3	He	101212.06	63.4
Ge	72	1	No Gas	499391.35	74.5
Ge	72	2	H2	368198.55	80.8
Ge	72	3	He	74962.70	73.6
In	115	1	No Gas	3502157.62	76.8
In	115	3	He	827801.22	78.0
Tb	159	1	No Gas	5620489.93	88.6
Tb	159	3	He	2433946.39	91.8
Ho	165	1	No Gas	5676910.56	90.8
Ho	165	3	He	2432889.91	92.1
Lu	175	1	No Gas	6018992.84	94.9
Lu	175	3	He	2014165.55	91.0
Bi	209	1	No Gas	4205557.03	96.2
Bi	209	3	He	1966604.57	98.0

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 099BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:36:35
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	0.126	ug/l	9049.66
Be	9	45	1	No Gas	-0.120	ug/l	91.32
B	11	45	1	No Gas	2.393	ug/l	3509.82
Na	23	45	3	He	102.473	ug/l	66135.52
Mg	24	45	3	He	9.670	ug/l	4025.89
Al	27	45	1	No Gas	-0.173	ug/l	30232.77
Si	28	45	2	H2	7.809	ug/l	14455.44
K	39	72	3	He	-141.294	ug/l	64656.68
Ca	40	72	2	H2	-5.158	ug/l	80802.47
Ti	47	72	1	No Gas	-0.088	ug/l	138.47
V	51	72	1	No Gas	5.122	ug/l	-34604.32
V	51	72	3	He	-9.496	ug/l	19843.42
Cr	52	72	1	No Gas	-4.713	ug/l	48073.22
Cr	52	72	3	He	0.029	ug/l	818.92
Mn	55	72	1	No Gas	-0.273	ug/l	9271.22
Mn	55	72	3	He	-0.014	ug/l	111.31
Fe	56	72	2	H2	-0.846	ug/l	6576.45
Fe	56	72	3	He	-1.299	ug/l	3216.93
Co	59	72	1	No Gas	-0.014	ug/l	296.08
Ni	60	72	1	No Gas	-0.128	ug/l	256.16
Ni	60	72	3	He	-0.057	ug/l	52.22
Cu	63	72	1	No Gas	-0.014	ug/l	1461.33
Cu	63	72	3	He	0.087	ug/l	505.24
Cu	65	72	1	No Gas	0.054	ug/l	645.61
Zn	66	72	1	No Gas	-0.032	ug/l	297.82
Zn	66	72	3	He	-0.039	ug/l	78.89
As	75	72	1	No Gas	-4.232	ug/l	9395.70
As	75	72	3	He	-0.424	ug/l	266.87
Se	78	72	2	H2	-0.019	ug/l	28.89
Br	79	72	1	No Gas	0.929	ug/l	9118.15
Br	79	72	2	H2	0.783	ug/l	4961.00
Se	82	72	1	No Gas	-0.612	ug/l	447.41
Kr	84	72	1	No Gas		ug/l	13942.51
Sr	88	72	1	No Gas	0.002	ug/l	236.20
Sr	88	72	3	He	0.012	ug/l	64.44
Mo	95	115	1	No Gas	0.012	ug/l	73.33
Mo	95	115	3	He	0.012	ug/l	22.22
Mo	98	115	1	No Gas	0.020	ug/l	154.44
Ag	107	115	1	No Gas	-0.001	ug/l	767.00
Ag	109	115	1	No Gas	-0.001	ug/l	759.66
Cd	111	115	1	No Gas	0.008	ug/l	12.12

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.005	ug/l	7.56
Cd	114	115	1	No Gas	0.009	ug/l	-19.47
Cd	114	115	3	He	0.003	ug/l	16.24
Sn	118	115	1	No Gas	-0.033	ug/l	2099.33
Sn	118	115	3	He	0.018	ug/l	517.79
Sb	121	115	1	No Gas	0.167	ug/l	2020.68
Sb	121	115	3	He	0.137	ug/l	410.38
Sb	123	115	1	No Gas	0.167	ug/l	1547.91
Sb	123	115	3	He	0.135	ug/l	319.37
Ba	135	115	1	No Gas	0.005	ug/l	23.29
Ba	137	115	1	No Gas	0.006	ug/l	49.90
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.000	ug/l	4.44
Hg	201	209	1	No Gas	0.001	ug/l	15.67
Hg	202	209	1	No Gas	0.005	ug/l	43.32
Hg	202	209	3	He	0.006	ug/l	22.33
Tl	203	209	3	He	0.235	ug/l	1515.36
Tl	205	209	1	No Gas	0.201	ug/l	6821.81
Tl	205	209	3	He	0.233	ug/l	3673.99
[Pb]	206	209	1	No Gas	-0.180	ug/l	2312.44
[Pb]	207	209	1	No Gas	-0.141	ug/l	2062.40
Pb	208	209	1	No Gas	-0.153	ug/l	9386.93
Th	232	209	3	He	0.101	ug/l	1896.90
U	238	209	1	No Gas	0.003	ug/l	153.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1775730.67	69.4
Sc	45	2	H2	1071339.66	79.0
Sc	45	3	He	111365.77	69.8
Ge	72	1	No Gas	533839.75	79.7
Ge	72	2	H2	396690.26	87.1
Ge	72	3	He	80683.28	79.2
In	115	1	No Gas	4087898.44	89.6
In	115	3	He	892292.67	84.0
Tb	159	1	No Gas	6320669.82	99.6
Tb	159	3	He	2617768.67	98.7
Ho	165	1	No Gas	6293602.91	100.6
Ho	165	3	He	2661143.58	100.8
Lu	175	1	No Gas	6625511.53	104.5
Lu	175	3	He	2224417.20	100.5
Bi	209	1	No Gas	4841304.72	110.7
Bi	209	3	He	2196440.28	109.5

ICPMS207-B Analytical Data

Sample Name CCV
File Name 100_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:42:49
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	354.368	ug/l	1434258.59
Be	9	45	1	No Gas	37.192	ug/l	70206.49
B	11	45	1	No Gas	42.557	ug/l	45355.69
Na	23	45	3	He	13001.127	ug/l	4412119.55
Mg	24	45	3	He	12560.360	ug/l	2389867.59
Al	27	45	1	No Gas	41.527	ug/l	360388.71
Si	28	45	2	H2	210.035	ug/l	216503.39
K	39	72	3	He	10374.128	ug/l	2307491.63
Ca	40	72	2	H2	10951.979	ug/l	42650120.28
Ti	47	72	1	No Gas	45.400	ug/l	40094.65
V	51	72	1	No Gas	43.985	ug/l	390585.14
V	51	72	3	He	41.660	ug/l	112243.07
Cr	52	72	1	No Gas	44.411	ug/l	518444.13
Cr	52	72	3	He	52.942	ug/l	106079.49
Mn	55	72	1	No Gas	53.563	ug/l	697489.10
Mn	55	72	3	He	52.043	ug/l	68151.33
Fe	56	72	2	H2	1261.236	ug/l	9177016.49
Fe	56	72	3	He	1256.375	ug/l	2218231.56
Co	59	72	1	No Gas	50.508	ug/l	540948.02
Ni	60	72	1	No Gas	51.945	ug/l	119364.40
Ni	60	72	3	He	55.389	ug/l	41953.57
Cu	63	72	1	No Gas	52.011	ug/l	299674.76
Cu	63	72	3	He	58.508	ug/l	114236.18
Cu	65	72	1	No Gas	53.980	ug/l	142805.28
Zn	66	72	1	No Gas	58.738	ug/l	108989.08
Zn	66	72	3	He	56.598	ug/l	25298.65
As	75	72	1	No Gas	57.922	ug/l	159888.28
As	75	72	3	He	54.753	ug/l	24926.27
Se	78	72	2	H2	56.304	ug/l	15792.78
Br	79	72	1	No Gas	0.606	ug/l	7230.83
Br	79	72	2	H2	0.609	ug/l	4328.74
Se	82	72	1	No Gas	59.133	ug/l	8849.44
Kr	84	72	1	No Gas		ug/l	19421.49
Sr	88	72	1	No Gas	59.772	ug/l	986898.46
Sr	88	72	3	He	55.842	ug/l	113355.30
Mo	95	115	1	No Gas	47.431	ug/l	181112.10
Mo	95	115	3	He	53.156	ug/l	69529.59
Mo	98	115	1	No Gas	47.987	ug/l	298347.25
Ag	107	115	1	No Gas	20.365	ug/l	206999.18
Ag	109	115	1	No Gas	20.554	ug/l	200054.69
Cd	111	115	1	No Gas	56.650	ug/l	120526.58

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	58.669	ug/l	40999.51
Cd	114	115	1	No Gas	54.994	ug/l	273776.91
Cd	114	115	3	He	61.073	ug/l	101499.54
Sn	118	115	1	No Gas	51.196	ug/l	339533.87
Sn	118	115	3	He	55.719	ug/l	94414.70
Sb	121	115	1	No Gas	55.155	ug/l	591511.57
Sb	121	115	3	He	56.709	ug/l	157713.35
Sb	123	115	1	No Gas	54.617	ug/l	450799.69
Sb	123	115	3	He	56.716	ug/l	124369.48
Ba	135	115	1	No Gas	55.782	ug/l	113143.55
Ba	137	115	1	No Gas	56.867	ug/l	198369.76
La	139	115	3	He	52.905	ug/l	508859.62
Ce	140	115	3	He	53.837	ug/l	565039.93
Hg	201	209	1	No Gas	0.937	ug/l	1768.77
Hg	202	209	1	No Gas	0.966	ug/l	4093.81
Hg	202	209	3	He	0.979	ug/l	1989.42
Tl	203	209	3	He	52.984	ug/l	253209.16
Tl	205	209	1	No Gas	53.282	ug/l	1287936.15
Tl	205	209	3	He	51.359	ug/l	610611.51
[Pb]	206	209	1	No Gas	52.177	ug/l	450178.33
[Pb]	207	209	1	No Gas	53.017	ug/l	395981.15
Pb	208	209	1	No Gas	53.240	ug/l	1824323.44
Th	232	209	3	He	52.432	ug/l	883214.68
U	238	209	1	No Gas	56.311	ug/l	1909012.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1743087.11	68.1
Sc	45	2	H2	1071446.07	79.0
Sc	45	3	He	111776.71	70.1
Ge	72	1	No Gas	521683.30	77.9
Ge	72	2	H2	394263.33	86.6
Ge	72	3	He	81812.76	80.3
In	115	1	No Gas	3849885.52	84.4
In	115	3	He	889347.63	83.8
Tb	159	1	No Gas	6109532.24	96.3
Tb	159	3	He	2616111.98	98.7
Ho	165	1	No Gas	6002358.97	96.0
Ho	165	3	He	2616970.11	99.1
Lu	175	1	No Gas	6434323.89	101.5
Lu	175	3	He	2167361.92	97.9
Bi	209	1	No Gas	4538541.42	103.8
Bi	209	3	He	2124635.42	105.9

ICPMS207-B Analytical Data

Sample Name CCB
File Name 101_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:49:03
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	0.415	ug/l	10092.06
Be	9	45	1	No Gas	-0.118	ug/l	94.65
B	11	45	1	No Gas	1.913	ug/l	2957.48
Na	23	45	3	He	112.551	ug/l	68218.03
Mg	24	45	3	He	6.873	ug/l	3430.28
Al	27	45	1	No Gas	-2.651	ug/l	10414.78
Si	28	45	2	H2	3.624	ug/l	10137.50
K	39	72	3	He	-133.449	ug/l	66117.42
Ca	40	72	2	H2	-5.787	ug/l	76537.85
Ti	47	72	1	No Gas	-0.107	ug/l	121.79
V	51	72	1	No Gas	8.438	ug/l	2116.82
V	51	72	3	He	-8.416	ug/l	21700.60
Cr	52	72	1	No Gas	-4.456	ug/l	50343.28
Cr	52	72	3	He	0.025	ug/l	808.92
Mn	55	72	1	No Gas	-0.255	ug/l	9467.65
Mn	55	72	3	He	-0.021	ug/l	102.65
Fe	56	72	2	H2	-0.766	ug/l	6993.73
Fe	56	72	3	He	-1.186	ug/l	3398.83
Co	59	72	1	No Gas	-0.013	ug/l	309.39
Ni	60	72	1	No Gas	-0.128	ug/l	256.16
Ni	60	72	3	He	-0.041	ug/l	64.44
Cu	63	72	1	No Gas	-0.022	ug/l	1409.97
Cu	63	72	3	He	0.078	ug/l	486.24
Cu	65	72	1	No Gas	0.052	ug/l	636.94
Zn	66	72	1	No Gas	-0.049	ug/l	264.22
Zn	66	72	3	He	-0.026	ug/l	84.44
As	75	72	1	No Gas	-3.212	ug/l	11858.10
As	75	72	3	He	-0.387	ug/l	282.73
Se	78	72	2	H2	-0.011	ug/l	30.44
Br	79	72	1	No Gas	0.458	ug/l	6578.48
Br	79	72	2	H2	0.367	ug/l	3430.28
Se	82	72	1	No Gas	-0.071	ug/l	524.08
Kr	84	72	1	No Gas		ug/l	13925.91
Sr	88	72	1	No Gas	0.002	ug/l	242.86
Sr	88	72	3	He	0.007	ug/l	54.44
Mo	95	115	1	No Gas	0.032	ug/l	152.22
Mo	95	115	3	He	0.019	ug/l	32.22
Mo	98	115	1	No Gas	0.026	ug/l	191.74
Ag	107	115	1	No Gas	-0.001	ug/l	738.99
Ag	109	115	1	No Gas	-0.003	ug/l	710.30
Cd	111	115	1	No Gas	0.003	ug/l	0.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.006	ug/l	8.11
Cd	114	115	1	No Gas	0.000	ug/l	-63.20
Cd	114	115	3	He	0.004	ug/l	17.87
Sn	118	115	1	No Gas	-0.046	ug/l	1942.96
Sn	118	115	3	He	0.019	ug/l	523.35
Sb	121	115	1	No Gas	0.109	ug/l	1309.53
Sb	121	115	3	He	0.095	ug/l	296.03
Sb	123	115	1	No Gas	0.110	ug/l	1019.81
Sb	123	115	3	He	0.086	ug/l	213.69
Ba	135	115	1	No Gas	-0.001	ug/l	9.98
Ba	137	115	1	No Gas	0.001	ug/l	29.94
La	139	115	3	He	-0.001	ug/l	5.56
Ce	140	115	3	He	0.000	ug/l	8.89
Hg	201	209	1	No Gas	0.006	ug/l	23.66
Hg	202	209	1	No Gas	0.012	ug/l	72.99
Hg	202	209	3	He	0.009	ug/l	27.99
Tl	203	209	3	He	0.227	ug/l	1443.33
Tl	205	209	1	No Gas	0.180	ug/l	6006.98
Tl	205	209	3	He	0.231	ug/l	3561.91
[Pb]	206	209	1	No Gas	-0.190	ug/l	2126.85
[Pb]	207	209	1	No Gas	-0.161	ug/l	1829.02
Pb	208	209	1	No Gas	-0.166	ug/l	8560.04
Th	232	209	3	He	0.092	ug/l	1697.46
U	238	209	1	No Gas	0.004	ug/l	171.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1750141.17	68.4
Sc	45	2	H2	1058304.65	78.0
Sc	45	3	He	109282.36	68.5
Ge	72	1	No Gas	531131.78	79.3
Ge	72	2	H2	387508.20	85.1
Ge	72	3	He	80418.04	78.9
In	115	1	No Gas	3952416.93	86.6
In	115	3	He	897667.03	84.5
Tb	159	1	No Gas	6179007.12	97.4
Tb	159	3	He	2613122.67	98.6
Ho	165	1	No Gas	6049822.63	96.7
Ho	165	3	He	2607202.45	98.7
Lu	175	1	No Gas	6314746.87	99.6
Lu	175	3	He	2163189.23	97.7
Bi	209	1	No Gas	4644037.99	106.2
Bi	209	3	He	2146749.14	107.0

ICPMS207-B Analytical Data

Sample Name Cal Blk
File Name 102CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 22:55:17
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	8716.00
Be	9	45	1	No Gas	0.000	ug/l	82.31
B	11	45	1	No Gas	0.000	ug/l	2239.07
Na	23	45	3	He	0.000	ug/l	67551.68
Mg	24	45	3	He	0.000	ug/l	3410.29
Al	27	45	1	No Gas	0.000	ug/l	11179.77
Si	28	45	2	H2	0.000	ug/l	8469.14
K	39	72	3	He	0.000	ug/l	64467.93
Ca	40	72	2	H2	0.000	ug/l	75887.24
Ti	47	72	1	No Gas	0.000	ug/l	101.77
V	51	72	1	No Gas	0.000	ug/l	-104473.71
V	51	72	3	He	0.000	ug/l	22350.42
Cr	52	72	1	No Gas	0.000	ug/l	49281.95
Cr	52	72	3	He	0.000	ug/l	845.59
Mn	55	72	1	No Gas	0.000	ug/l	9058.20
Mn	55	72	3	He	0.000	ug/l	105.65
Fe	56	72	2	H2	0.000	ug/l	6955.33
Fe	56	72	3	He	0.000	ug/l	3203.59
Co	59	72	1	No Gas	0.000	ug/l	239.53
Ni	60	72	1	No Gas	0.000	ug/l	316.04
Ni	60	72	3	He	0.000	ug/l	66.67
Cu	63	72	1	No Gas	0.000	ug/l	1331.27
Cu	63	72	3	He	0.000	ug/l	482.58
Cu	65	72	1	No Gas	0.000	ug/l	623.60
Zn	66	72	1	No Gas	0.000	ug/l	281.05
Zn	66	72	3	He	0.000	ug/l	63.34
As	75	72	1	No Gas	0.000	ug/l	13490.47
As	75	72	3	He	0.000	ug/l	275.73
Se	78	72	2	H2	0.000	ug/l	27.44
Br	79	72	1	No Gas	0.000	ug/l	6119.19
Br	79	72	2	H2	0.000	ug/l	3297.18
Se	82	72	1	No Gas	0.000	ug/l	502.74
Kr	84	72	1	No Gas		ug/l	13599.60
Sr	88	72	1	No Gas	0.000	ug/l	216.24
Sr	88	72	3	He	0.000	ug/l	52.22
Mo	95	115	1	No Gas	0.000	ug/l	40.00
Mo	95	115	3	He	0.000	ug/l	14.45
Mo	98	115	1	No Gas	0.000	ug/l	54.58
Ag	107	115	1	No Gas	0.000	ug/l	664.28
Ag	109	115	1	No Gas	0.000	ug/l	680.96
Cd	111	115	1	No Gas	0.000	ug/l	-4.89

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	8.00
Cd	114	115	1	No Gas	0.000	ug/l	-45.76
Cd	114	115	3	He	0.000	ug/l	16.89
Sn	118	115	1	No Gas	0.000	ug/l	1557.01
Sn	118	115	3	He	0.000	ug/l	427.79
Sb	121	115	1	No Gas	0.000	ug/l	607.08
Sb	121	115	3	He	0.000	ug/l	161.35
Sb	123	115	1	No Gas	0.000	ug/l	471.06
Sb	123	115	3	He	0.000	ug/l	121.01
Ba	135	115	1	No Gas	0.000	ug/l	13.31
Ba	137	115	1	No Gas	0.000	ug/l	29.94
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	0.000	ug/l	14.44
Hg	201	209	1	No Gas	0.000	ug/l	16.33
Hg	202	209	1	No Gas	0.000	ug/l	49.66
Hg	202	209	3	He	0.000	ug/l	18.67
Tl	203	209	3	He	0.000	ug/l	772.34
Tl	205	209	1	No Gas	0.000	ug/l	2987.03
Tl	205	209	3	He	0.000	ug/l	1935.59
[Pb]	206	209	1	No Gas	0.000	ug/l	2015.73
[Pb]	207	209	1	No Gas	0.000	ug/l	1810.13
Pb	208	209	1	No Gas	0.000	ug/l	8123.24
Th	232	209	3	He	0.000	ug/l	725.65
U	238	209	1	No Gas	0.000	ug/l	66.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1736505.18	100.0
Sc	45	2	H2	1033530.80	100.0
Sc	45	3	He	107106.42	100.0
Ge	72	1	No Gas	509788.43	100.0
Ge	72	2	H2	384019.60	100.0
Ge	72	3	He	77495.75	100.0
In	115	1	No Gas	3918952.78	100.0
In	115	3	He	873894.73	100.0
Tb	159	1	No Gas	6165415.15	100.0
Tb	159	3	He	2555985.01	100.0
Ho	165	1	No Gas	6114987.48	100.0
Ho	165	3	He	2609340.29	100.0
Lu	175	1	No Gas	6443163.93	100.0
Lu	175	3	He	2159994.58	100.0
Bi	209	1	No Gas	4636324.85	100.0
Bi	209	3	He	2138110.13	100.0

ICPMS207-B Analytical Data

Sample Name 0.025 ppb STD
File Name 103CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:01:43
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	0.543	ug/l	9208.48
Be	9	45	1	No Gas	0.011	ug/l	88.98
B	11	45	1	No Gas	-0.079	ug/l	2034.29
Na	23	45	3	He	12.047	ug/l	67950.16
Mg	24	45	3	He	6.132	ug/l	4238.87
Al	27	45	1	No Gas	0.224	ug/l	11789.12
Si	28	45	2	H2	-0.299	ug/l	8104.79
K	39	72	3	He	4.531	ug/l	63645.58
Ca	40	72	2	H2	8.425	ug/l	100886.17
Ti	47	72	1	No Gas	0.039	ug/l	125.13
V	51	72	1	No Gas	16.602	ug/l	59587.33
V	51	72	3	He	0.442	ug/l	22490.79
Cr	52	72	1	No Gas	0.259	ug/l	50016.42
Cr	52	72	3	He	0.041	ug/l	897.81
Mn	55	72	1	No Gas	0.024	ug/l	9074.83
Mn	55	72	3	He	0.024	ug/l	130.31
Fe	56	72	2	H2	0.656	ug/l	11212.26
Fe	56	72	3	He	0.825	ug/l	4416.79
Co	59	72	1	No Gas	0.029	ug/l	515.65
Ni	60	72	1	No Gas	0.041	ug/l	392.56
Ni	60	72	3	He	0.028	ug/l	84.44
Cu	63	72	1	No Gas	0.020	ug/l	1399.30
Cu	63	72	3	He	0.019	ug/l	506.58
Cu	65	72	1	No Gas	0.026	ug/l	670.29
Zn	66	72	1	No Gas	0.168	ug/l	593.59
Zn	66	72	3	He	0.179	ug/l	137.78
As	75	72	1	No Gas	-0.310	ug/l	12332.74
As	75	72	3	He	0.023	ug/l	278.60
Se	78	72	2	H2	0.047	ug/l	39.44
Br	79	72	1	No Gas	-0.016	ug/l	5826.30
Br	79	72	2	H2	0.025	ug/l	3287.19
Se	82	72	1	No Gas	0.341	ug/l	537.94
Kr	84	72	1	No Gas		ug/l	12480.84
Sr	88	72	1	No Gas	0.026	ug/l	665.37
Sr	88	72	3	He	0.031	ug/l	111.11
Mo	95	115	1	No Gas	0.021	ug/l	114.44
Mo	95	115	3	He	0.021	ug/l	41.11
Mo	98	115	1	No Gas	0.022	ug/l	177.78
Ag	107	115	1	No Gas	0.020	ug/l	849.70
Ag	109	115	1	No Gas	0.016	ug/l	813.69
Cd	111	115	1	No Gas	0.029	ug/l	58.99

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.025	ug/l	25.45
Cd	114	115	1	No Gas	0.024	ug/l	82.53
Cd	114	115	3	He	0.022	ug/l	55.60
Sn	118	115	1	No Gas	0.745	ug/l	6372.20
Sn	118	115	3	He	0.817	ug/l	1842.36
Sb	121	115	1	No Gas	0.011	ug/l	712.09
Sb	121	115	3	He	0.008	ug/l	183.35
Sb	123	115	1	No Gas	0.012	ug/l	565.40
Sb	123	115	3	He	0.016	ug/l	155.35
Ba	135	115	1	No Gas	0.036	ug/l	89.82
Ba	137	115	1	No Gas	0.027	ug/l	126.42
La	139	115	3	He	0.024	ug/l	248.90
Ce	140	115	3	He	0.029	ug/l	336.67
Hg	201	209	1	No Gas	-0.002	ug/l	12.67
Hg	202	209	1	No Gas	0.000	ug/l	48.99
Hg	202	209	3	He	-0.002	ug/l	14.00
Tl	203	209	3	He	-0.010	ug/l	728.31
Tl	205	209	1	No Gas	-0.005	ug/l	2853.66
Tl	205	209	3	He	-0.018	ug/l	1728.14
[Pb]	206	209	1	No Gas	0.026	ug/l	2247.98
[Pb]	207	209	1	No Gas	0.006	ug/l	1856.81
Pb	208	209	1	No Gas	0.019	ug/l	8800.09
Th	232	209	3	He	0.000	ug/l	725.65
U	238	209	1	No Gas	0.023	ug/l	895.52

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1617032.78	93.1
Sc	45	2	H2	1021073.06	98.8
Sc	45	3	He	102073.46	95.3
Ge	72	1	No Gas	494635.52	97.0
Ge	72	2	H2	370718.45	96.5
Ge	72	3	He	75582.66	97.5
In	115	1	No Gas	3840439.41	98.0
In	115	3	He	861620.92	98.6
Tb	159	1	No Gas	6042355.79	98.0
Tb	159	3	He	2610122.24	102.1
Ho	165	1	No Gas	6076088.90	99.4
Ho	165	3	He	2609801.64	100.0
Lu	175	1	No Gas	6310631.92	97.9
Lu	175	3	He	2144493.69	99.3
Bi	209	1	No Gas	4633782.13	99.9
Bi	209	3	He	2149462.28	100.5

ICPMS207-B Analytical Data

Sample Name 0.05 ppb STD
File Name 104CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:08:08
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	0.981	ug/l	9745.03
Be	9	45	1	No Gas	0.042	ug/l	120.64
B	11	45	1	No Gas	-0.428	ug/l	1734.80
Na	23	45	3	He	14.567	ug/l	66612.07
Mg	24	45	3	He	13.306	ug/l	5237.22
Al	27	45	1	No Gas	0.183	ug/l	11143.09
Si	28	45	2	H2	-0.554	ug/l	7621.68
K	39	72	3	He	-8.921	ug/l	61331.56
Ca	40	72	2	H2	13.762	ug/l	118209.40
Ti	47	72	1	No Gas	0.091	ug/l	161.83
V	51	72	1	No Gas	3.400	ug/l	-68899.99
V	51	72	3	He	-0.155	ug/l	21518.04
Cr	52	72	1	No Gas	-0.100	ug/l	46958.83
Cr	52	72	3	He	0.052	ug/l	915.59
Mn	55	72	1	No Gas	0.040	ug/l	9267.93
Mn	55	72	3	He	0.054	ug/l	164.97
Fe	56	72	2	H2	1.376	ug/l	16128.44
Fe	56	72	3	He	1.448	ug/l	5379.74
Co	59	72	1	No Gas	0.053	ug/l	745.21
Ni	60	72	1	No Gas	0.033	ug/l	375.93
Ni	60	72	3	He	0.024	ug/l	81.11
Cu	63	72	1	No Gas	0.037	ug/l	1490.01
Cu	63	72	3	He	0.043	ug/l	548.90
Cu	65	72	1	No Gas	0.023	ug/l	663.62
Zn	66	72	1	No Gas	0.079	ug/l	424.00
Zn	66	72	3	He	0.101	ug/l	104.44
As	75	72	1	No Gas	-1.040	ug/l	10517.29
As	75	72	3	He	0.026	ug/l	279.40
Se	78	72	2	H2	0.059	ug/l	42.67
Br	79	72	1	No Gas	-0.024	ug/l	5776.41
Br	79	72	2	H2	-0.053	ug/l	2957.79
Se	82	72	1	No Gas	-0.938	ug/l	350.22
Kr	84	72	1	No Gas		ug/l	12580.76
Sr	88	72	1	No Gas	0.057	ug/l	1207.66
Sr	88	72	3	He	0.067	ug/l	178.89
Mo	95	115	1	No Gas	0.046	ug/l	201.12
Mo	95	115	3	He	0.047	ug/l	73.33
Mo	98	115	1	No Gas	0.056	ug/l	371.75
Ag	107	115	1	No Gas	0.031	ug/l	946.41
Ag	109	115	1	No Gas	0.026	ug/l	905.73
Cd	111	115	1	No Gas	0.054	ug/l	113.99

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.052	ug/l	44.55
Cd	114	115	1	No Gas	0.047	ug/l	198.49
Cd	114	115	3	He	0.044	ug/l	92.97
Sn	118	115	1	No Gas	0.794	ug/l	6641.76
Sn	118	115	3	He	0.852	ug/l	1890.14
Sb	121	115	1	No Gas	0.030	ug/l	914.46
Sb	121	115	3	He	0.030	ug/l	242.03
Sb	123	115	1	No Gas	0.034	ug/l	747.10
Sb	123	115	3	He	0.032	ug/l	191.69
Ba	135	115	1	No Gas	0.053	ug/l	126.42
Ba	137	115	1	No Gas	0.053	ug/l	222.90
La	139	115	3	He	0.052	ug/l	527.79
Ce	140	115	3	He	0.051	ug/l	565.57
Hg	201	209	1	No Gas	0.000	ug/l	16.00
Hg	202	209	1	No Gas	-0.001	ug/l	46.99
Hg	202	209	3	He	0.002	ug/l	23.33
Tl	203	209	3	He	-0.017	ug/l	690.30
Tl	205	209	1	No Gas	0.007	ug/l	3154.84
Tl	205	209	3	He	-0.016	ug/l	1752.16
[Pb]	206	209	1	No Gas	0.041	ug/l	2361.34
[Pb]	207	209	1	No Gas	0.017	ug/l	1930.15
Pb	208	209	1	No Gas	0.034	ug/l	9268.00
Th	232	209	3	He	0.007	ug/l	853.71
U	238	209	1	No Gas	0.053	ug/l	1964.28

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1562694.60	90.0
Sc	45	2	H2	986826.16	95.5
Sc	45	3	He	98993.83	92.4
Ge	72	1	No Gas	494430.31	97.0
Ge	72	2	H2	370239.46	96.4
Ge	72	3	He	75444.87	97.4
In	115	1	No Gas	3811832.64	97.3
In	115	3	He	855489.58	97.9
Tb	159	1	No Gas	5994458.41	97.2
Tb	159	3	He	2574784.80	100.7
Ho	165	1	No Gas	6029018.91	98.6
Ho	165	3	He	2577385.37	98.8
Lu	175	1	No Gas	6249268.53	97.0
Lu	175	3	He	2143058.14	99.2
Bi	209	1	No Gas	4602505.51	99.3
Bi	209	3	He	2143874.18	100.3

ICPMS207-B Analytical Data

Sample Name 0.10 ppb STD
File Name 105CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:14:33
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	1.607	ug/l	10901.61
Be	9	45	1	No Gas	0.105	ug/l	189.63
B	11	45	1	No Gas	-0.706	ug/l	1548.70
Na	23	45	3	He	23.104	ug/l	68547.39
Mg	24	45	3	He	29.628	ug/l	7739.99
Al	27	45	1	No Gas	0.097	ug/l	10592.67
Si	28	45	2	H2	0.172	ug/l	8172.78
K	39	72	3	He	9.445	ug/l	63211.37
Ca	40	72	2	H2	28.359	ug/l	164959.89
Ti	47	72	1	No Gas	0.161	ug/l	203.54
V	51	72	1	No Gas	7.885	ug/l	-24191.56
V	51	72	3	He	-0.231	ug/l	21029.62
Cr	52	72	1	No Gas	-0.027	ug/l	46017.51
Cr	52	72	3	He	0.123	ug/l	1022.26
Mn	55	72	1	No Gas	0.102	ug/l	9677.36
Mn	55	72	3	He	0.106	ug/l	221.29
Fe	56	72	2	H2	2.970	ug/l	26868.25
Fe	56	72	3	He	3.004	ug/l	7669.75
Co	59	72	1	No Gas	0.121	ug/l	1367.35
Ni	60	72	1	No Gas	0.067	ug/l	432.48
Ni	60	72	3	He	0.114	ug/l	141.11
Cu	63	72	1	No Gas	0.096	ug/l	1744.14
Cu	63	72	3	He	0.090	ug/l	623.22
Cu	65	72	1	No Gas	0.096	ug/l	816.35
Zn	66	72	1	No Gas	0.111	ug/l	470.71
Zn	66	72	3	He	0.108	ug/l	105.55
As	75	72	1	No Gas	-1.018	ug/l	10225.10
As	75	72	3	He	0.082	ug/l	298.13
Se	78	72	2	H2	0.109	ug/l	56.22
Br	79	72	1	No Gas	-0.030	ug/l	5550.09
Br	79	72	2	H2	-0.029	ug/l	3037.64
Se	82	72	1	No Gas	0.227	ug/l	502.88
Kr	84	72	1	No Gas		ug/l	12817.14
Sr	88	72	1	No Gas	0.117	ug/l	2175.86
Sr	88	72	3	He	0.103	ug/l	243.34
Mo	95	115	1	No Gas	0.092	ug/l	366.67
Mo	95	115	3	He	0.106	ug/l	146.67
Mo	98	115	1	No Gas	0.101	ug/l	633.00
Ag	107	115	1	No Gas	0.051	ug/l	1144.51
Ag	109	115	1	No Gas	0.040	ug/l	1046.46
Cd	111	115	1	No Gas	0.121	ug/l	264.52

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.117	ug/l	89.11
Cd	114	115	1	No Gas	0.108	ug/l	518.98
Cd	114	115	3	He	0.123	ug/l	225.83
Sn	118	115	1	No Gas	0.840	ug/l	7011.20
Sn	118	115	3	He	0.865	ug/l	1879.02
Sb	121	115	1	No Gas	0.082	ug/l	1496.23
Sb	121	115	3	He	0.088	ug/l	401.04
Sb	123	115	1	No Gas	0.083	ug/l	1171.84
Sb	123	115	3	He	0.087	ug/l	311.37
Ba	135	115	1	No Gas	0.102	ug/l	232.88
Ba	137	115	1	No Gas	0.101	ug/l	402.55
La	139	115	3	He	0.118	ug/l	1171.17
Ce	140	115	3	He	0.118	ug/l	1275.62
Hg	201	209	1	No Gas	-0.001	ug/l	13.67
Hg	202	209	1	No Gas	0.001	ug/l	52.66
Hg	202	209	3	He	-0.001	ug/l	16.67
Tl	203	209	3	He	0.039	ug/l	971.10
Tl	205	209	1	No Gas	0.056	ug/l	4358.52
Tl	205	209	3	He	0.028	ug/l	2285.12
[Pb]	206	209	1	No Gas	0.094	ug/l	2804.75
[Pb]	207	209	1	No Gas	0.084	ug/l	2424.68
Pb	208	209	1	No Gas	0.092	ug/l	11254.18
Th	232	209	3	He	0.032	ug/l	1278.58
U	238	209	1	No Gas	0.104	ug/l	3748.79

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1557799.93	89.7
Sc	45	2	H2	979158.03	94.7
Sc	45	3	He	98239.20	91.7
Ge	72	1	No Gas	478280.66	93.8
Ge	72	2	H2	368013.77	95.8
Ge	72	3	He	74148.50	95.7
In	115	1	No Gas	3850531.01	98.3
In	115	3	He	840899.07	96.2
Tb	159	1	No Gas	5982902.28	97.0
Tb	159	3	He	2542696.20	99.5
Ho	165	1	No Gas	5855360.41	95.8
Ho	165	3	He	2539344.67	97.3
Lu	175	1	No Gas	6191610.09	96.1
Lu	175	3	He	2120178.10	98.2
Bi	209	1	No Gas	4551342.95	98.2
Bi	209	3	He	2152635.52	100.7

ICPMS207-B Analytical Data

Sample Name 0.5 ppb STD
File Name 106CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:20:57
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	5.880	ug/l	19279.97
Be	9	45	1	No Gas	0.471	ug/l	599.89
B	11	45	1	No Gas	-0.481	ug/l	1707.45
Na	23	45	3	He	134.828	ug/l	97691.07
Mg	24	45	3	He	136.661	ug/l	23731.76
Al	27	45	1	No Gas	0.361	ug/l	12227.25
Si	28	45	2	H2	0.414	ug/l	8347.69
K	39	72	3	He	103.862	ug/l	77188.24
Ca	40	72	2	H2	131.314	ug/l	493687.45
Ti	47	72	1	No Gas	0.516	ug/l	442.12
V	51	72	1	No Gas	4.311	ug/l	-56682.04
V	51	72	3	He	0.107	ug/l	21228.71
Cr	52	72	1	No Gas	0.327	ug/l	48834.42
Cr	52	72	3	He	0.565	ug/l	1754.56
Mn	55	72	1	No Gas	0.489	ug/l	14152.11
Mn	55	72	3	He	0.508	ug/l	665.88
Fe	56	72	2	H2	13.844	ug/l	99607.16
Fe	56	72	3	He	13.654	ug/l	23652.89
Co	59	72	1	No Gas	0.508	ug/l	5014.24
Ni	60	72	1	No Gas	0.462	ug/l	1234.27
Ni	60	72	3	He	0.529	ug/l	416.68
Cu	63	72	1	No Gas	0.508	ug/l	3857.40
Cu	63	72	3	He	0.550	ug/l	1427.79
Cu	65	72	1	No Gas	0.512	ug/l	1814.18
Zn	66	72	1	No Gas	0.685	ug/l	1531.92
Zn	66	72	3	He	0.687	ug/l	341.12
As	75	72	1	No Gas	-1.005	ug/l	10231.94
As	75	72	3	He	0.482	ug/l	456.67
Se	78	72	2	H2	0.508	ug/l	163.11
Br	79	72	1	No Gas	-0.103	ug/l	5097.46
Br	79	72	2	H2	-0.014	ug/l	3064.26
Se	82	72	1	No Gas	0.006	ug/l	470.75
Kr	84	72	1	No Gas		ug/l	12580.61
Sr	88	72	1	No Gas	0.547	ug/l	9447.73
Sr	88	72	3	He	0.582	ug/l	1128.94
Mo	95	115	1	No Gas	0.470	ug/l	1650.11
Mo	95	115	3	He	0.488	ug/l	627.80
Mo	98	115	1	No Gas	0.483	ug/l	2745.35
Ag	107	115	1	No Gas	0.213	ug/l	2638.65
Ag	109	115	1	No Gas	0.204	ug/l	2522.58
Cd	111	115	1	No Gas	0.510	ug/l	1090.42

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.535	ug/l	383.56
Cd	114	115	1	No Gas	0.494	ug/l	2458.35
Cd	114	115	3	He	0.538	ug/l	943.39
Sn	118	115	1	No Gas	0.993	ug/l	7746.81
Sn	118	115	3	He	1.031	ug/l	2180.18
Sb	121	115	1	No Gas	0.470	ug/l	5576.67
Sb	121	115	3	He	0.480	ug/l	1508.24
Sb	123	115	1	No Gas	0.460	ug/l	4247.07
Sb	123	115	3	He	0.484	ug/l	1213.17
Ba	135	115	1	No Gas	0.471	ug/l	994.74
Ba	137	115	1	No Gas	0.555	ug/l	2002.85
La	139	115	3	He	0.538	ug/l	5357.74
Ce	140	115	3	He	0.526	ug/l	5683.41
Hg	201	209	1	No Gas	0.006	ug/l	27.66
Hg	202	209	1	No Gas	0.007	ug/l	79.98
Hg	202	209	3	He	0.008	ug/l	35.99
Tl	203	209	3	He	0.408	ug/l	2793.42
Tl	205	209	1	No Gas	0.411	ug/l	13340.07
Tl	205	209	3	He	0.407	ug/l	6859.87
[Pb]	206	209	1	No Gas	0.452	ug/l	5933.58
[Pb]	207	209	1	No Gas	0.430	ug/l	5107.68
Pb	208	209	1	No Gas	0.449	ug/l	23870.84
Th	232	209	3	He	0.303	ug/l	6001.79
U	238	209	1	No Gas	0.476	ug/l	16920.89

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1567929.13	90.3
Sc	45	2	H2	977001.90	94.5
Sc	45	3	He	95537.86	89.2
Ge	72	1	No Gas	477565.51	93.7
Ge	72	2	H2	363414.67	94.6
Ge	72	3	He	73050.47	94.3
In	115	1	No Gas	3729005.10	95.2
In	115	3	He	848384.44	97.1
Tb	159	1	No Gas	5912583.52	95.9
Tb	159	3	He	2555733.74	100.0
Ho	165	1	No Gas	5858408.98	95.8
Ho	165	3	He	2598359.93	99.6
Lu	175	1	No Gas	6259315.66	97.1
Lu	175	3	He	2125923.22	98.4
Bi	209	1	No Gas	4546426.45	98.1
Bi	209	3	He	2153436.41	100.7

ICPMS207-B Analytical Data

Sample Name 1 ppb STD
File Name 107CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:27:22
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	13.256	ug/l	31859.51
Be	9	45	1	No Gas	1.003	ug/l	1133.15
B	11	45	1	No Gas	0.041	ug/l	1944.24
Na	23	45	3	He	289.034	ug/l	139246.06
Mg	24	45	3	He	290.008	ug/l	46493.21
Al	27	45	1	No Gas	1.111	ug/l	15806.17
Si	28	45	2	H2	3.419	ug/l	10815.14
K	39	72	3	He	242.496	ug/l	98538.36
Ca	40	72	2	H2	273.783	ug/l	947617.75
Ti	47	72	1	No Gas	1.065	ug/l	805.83
V	51	72	1	No Gas	12.876	ug/l	22400.33
V	51	72	3	He	0.645	ug/l	21915.33
Cr	52	72	1	No Gas	0.933	ug/l	53611.61
Cr	52	72	3	He	1.148	ug/l	2731.38
Mn	55	72	1	No Gas	0.996	ug/l	19940.81
Mn	55	72	3	He	1.117	ug/l	1336.80
Fe	56	72	2	H2	28.999	ug/l	200619.45
Fe	56	72	3	He	29.272	ug/l	46980.53
Co	59	72	1	No Gas	1.054	ug/l	10123.48
Ni	60	72	1	No Gas	1.030	ug/l	2375.49
Ni	60	72	3	He	1.154	ug/l	828.92
Cu	63	72	1	No Gas	1.054	ug/l	6634.85
Cu	63	72	3	He	1.216	ug/l	2592.71
Cu	65	72	1	No Gas	1.079	ug/l	3162.28
Zn	66	72	1	No Gas	1.091	ug/l	2274.01
Zn	66	72	3	He	1.237	ug/l	562.24
As	75	72	1	No Gas	0.351	ug/l	13411.05
As	75	72	3	He	1.073	ug/l	694.27
Se	78	72	2	H2	1.166	ug/l	339.00
Br	79	72	1	No Gas	-0.118	ug/l	4987.65
Br	79	72	2	H2	-0.020	ug/l	3027.67
Se	82	72	1	No Gas	0.613	ug/l	554.75
Kr	84	72	1	No Gas		ug/l	12360.93
Sr	88	72	1	No Gas	1.122	ug/l	19104.84
Sr	88	72	3	He	1.161	ug/l	2193.52
Mo	95	115	1	No Gas	1.020	ug/l	3572.69
Mo	95	115	3	He	1.109	ug/l	1388.97
Mo	98	115	1	No Gas	1.004	ug/l	5710.07
Ag	107	115	1	No Gas	0.438	ug/l	4800.75
Ag	109	115	1	No Gas	0.402	ug/l	4386.45
Cd	111	115	1	No Gas	1.059	ug/l	2292.21

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.147	ug/l	802.13
Cd	114	115	1	No Gas	1.011	ug/l	5126.49
Cd	114	115	3	He	1.156	ug/l	1980.59
Sn	118	115	1	No Gas	1.735	ug/l	12560.72
Sn	118	115	3	He	1.983	ug/l	3757.47
Sb	121	115	1	No Gas	1.007	ug/l	11380.10
Sb	121	115	3	He	1.063	ug/l	3104.66
Sb	123	115	1	No Gas	0.996	ug/l	8750.27
Sb	123	115	3	He	1.039	ug/l	2431.13
Ba	135	115	1	No Gas	1.019	ug/l	2152.57
Ba	137	115	1	No Gas	1.058	ug/l	3836.27
La	139	115	3	He	1.110	ug/l	10877.66
Ce	140	115	3	He	1.140	ug/l	12126.47
Hg	201	209	1	No Gas	0.017	ug/l	44.99
Hg	202	209	1	No Gas	0.017	ug/l	117.64
Hg	202	209	3	He	0.018	ug/l	56.99
Tl	203	209	3	He	0.970	ug/l	5470.66
Tl	205	209	1	No Gas	0.951	ug/l	26131.25
Tl	205	209	3	He	0.940	ug/l	13067.00
[Pb]	206	209	1	No Gas	1.030	ug/l	10622.08
[Pb]	207	209	1	No Gas	0.981	ug/l	9062.02
Pb	208	209	1	No Gas	1.008	ug/l	42243.29
Th	232	209	3	He	0.778	ug/l	14002.44
U	238	209	1	No Gas	1.018	ug/l	34946.17

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1486561.55	85.6
Sc	45	2	H2	974704.17	94.3
Sc	45	3	He	94658.72	88.4
Ge	72	1	No Gas	475735.06	93.3
Ge	72	2	H2	361912.21	94.2
Ge	72	3	He	72644.25	93.7
In	115	1	No Gas	3767353.76	96.1
In	115	3	He	836282.65	95.7
Tb	159	1	No Gas	5972509.59	96.9
Tb	159	3	He	2540075.09	99.4
Ho	165	1	No Gas	5855672.86	95.8
Ho	165	3	He	2579967.48	98.9
Lu	175	1	No Gas	6119304.56	95.0
Lu	175	3	He	2111842.58	97.8
Bi	209	1	No Gas	4398691.87	94.9
Bi	209	3	He	2117245.31	99.0

ICPMS207-B Analytical Data

Sample Name 10 ppb STD
File Name 108CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:33:46
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	117.365	ug/l	231751.05
Be	9	45	1	No Gas	9.478	ug/l	10483.56
B	11	45	1	No Gas	8.525	ug/l	7512.91
Na	23	45	3	He	2720.570	ug/l	819317.54
Mg	24	45	3	He	2854.936	ug/l	436920.50
Al	27	45	1	No Gas	9.716	ug/l	66416.27
Si	28	45	2	H2	37.705	ug/l	39613.46
K	39	72	3	He	2511.954	ug/l	458081.39
Ca	40	72	2	H2	2581.166	ug/l	8545005.23
Ti	47	72	1	No Gas	10.501	ug/l	7122.26
V	51	72	1	No Gas	29.016	ug/l	172124.66
V	51	72	3	He	10.312	ug/l	36703.52
Cr	52	72	1	No Gas	9.639	ug/l	124576.84
Cr	52	72	3	He	10.344	ug/l	18373.78
Mn	55	72	1	No Gas	10.120	ug/l	125320.59
Mn	55	72	3	He	10.678	ug/l	12016.17
Fe	56	72	2	H2	272.317	ug/l	1875923.23
Fe	56	72	3	He	277.282	ug/l	422403.51
Co	59	72	1	No Gas	9.963	ug/l	93887.82
Ni	60	72	1	No Gas	10.178	ug/l	20880.16
Ni	60	72	3	He	10.998	ug/l	7421.92
Cu	63	72	1	No Gas	10.414	ug/l	54550.00
Cu	63	72	3	He	11.464	ug/l	20764.21
Cu	65	72	1	No Gas	10.648	ug/l	26053.66
Zn	66	72	1	No Gas	10.844	ug/l	20281.40
Zn	66	72	3	He	11.310	ug/l	4691.90
As	75	72	1	No Gas	7.353	ug/l	30171.82
As	75	72	3	He	10.522	ug/l	4562.56
Se	78	72	2	H2	10.572	ug/l	2938.97
Br	79	72	1	No Gas	-0.072	ug/l	5270.53
Br	79	72	2	H2	-0.076	ug/l	2867.94
Se	82	72	1	No Gas	11.062	ug/l	2024.54
Kr	84	72	1	No Gas		ug/l	14302.22
Sr	88	72	1	No Gas	10.578	ug/l	178467.33
Sr	88	72	3	He	10.880	ug/l	20266.58
Mo	95	115	1	No Gas	9.547	ug/l	33237.54
Mo	95	115	3	He	10.262	ug/l	13094.95
Mo	98	115	1	No Gas	9.827	ug/l	55592.93
Ag	107	115	1	No Gas	3.984	ug/l	38673.47
Ag	109	115	1	No Gas	3.961	ug/l	37555.32
Cd	111	115	1	No Gas	10.070	ug/l	21903.37

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.675	ug/l	7609.15
Cd	114	115	1	No Gas	9.668	ug/l	49540.80
Cd	114	115	3	He	10.807	ug/l	18903.34
Sn	118	115	1	No Gas	10.451	ug/l	68404.25
Sn	118	115	3	He	10.775	ug/l	19119.75
Sb	121	115	1	No Gas	9.673	ug/l	104742.90
Sb	121	115	3	He	10.116	ug/l	29041.03
Sb	123	115	1	No Gas	9.594	ug/l	80680.25
Sb	123	115	3	He	10.020	ug/l	23090.21
Ba	135	115	1	No Gas	9.912	ug/l	20910.91
Ba	137	115	1	No Gas	9.727	ug/l	35118.18
La	139	115	3	He	10.491	ug/l	105675.23
Ce	140	115	3	He	10.447	ug/l	114162.22
Hg	201	209	1	No Gas	0.184	ug/l	355.27
Hg	202	209	1	No Gas	0.192	ug/l	855.53
Hg	202	209	3	He	0.197	ug/l	442.25
Tl	203	209	3	He	9.904	ug/l	49831.08
Tl	205	209	1	No Gas	9.358	ug/l	238950.16
Tl	205	209	3	He	9.680	ug/l	119117.81
[Pb]	206	209	1	No Gas	9.397	ug/l	83830.24
[Pb]	207	209	1	No Gas	9.095	ug/l	71914.57
Pb	208	209	1	No Gas	9.342	ug/l	337515.26
Th	232	209	3	He	9.295	ug/l	162760.36
U	238	209	1	No Gas	9.521	ug/l	335828.04

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1541407.95	88.8
Sc	45	2	H2	984798.53	95.3
Sc	45	3	He	95934.77	89.6
Ge	72	1	No Gas	476043.16	93.4
Ge	72	2	H2	371243.65	96.7
Ge	72	3	He	73126.52	94.4
In	115	1	No Gas	3778365.67	96.4
In	115	3	He	859910.84	98.4
Tb	159	1	No Gas	5864634.48	95.1
Tb	159	3	He	2589453.35	101.3
Ho	165	1	No Gas	5940983.95	97.2
Ho	165	3	He	2612430.20	100.1
Lu	175	1	No Gas	6235147.17	96.8
Lu	175	3	He	2140602.20	99.1
Bi	209	1	No Gas	4527710.71	97.7
Bi	209	3	He	2160722.40	101.1

ICPMS207-B Analytical Data

Sample Name 50 ppb STD
File Name 109CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:40:10
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	568.132	ug/l	1082220.09
Be	9	45	1	No Gas	50.268	ug/l	54792.93
B	11	45	1	No Gas	51.181	ug/l	34834.34
Na	23	45	3	He	12494.878	ug/l	3726225.54
Mg	24	45	3	He	12387.089	ug/l	1981679.22
Al	27	45	1	No Gas	50.623	ug/l	301567.24
Si	28	45	2	H2	212.824	ug/l	191092.78
K	39	72	3	He	11304.419	ug/l	2000126.91
Ca	40	72	2	H2	11967.116	ug/l	40359619.45
Ti	47	72	1	No Gas	50.576	ug/l	35924.96
V	51	72	1	No Gas	55.937	ug/l	450323.33
V	51	72	3	He	48.981	ug/l	103074.71
Cr	52	72	1	No Gas	49.608	ug/l	476538.54
Cr	52	72	3	He	51.050	ug/l	94716.74
Mn	55	72	1	No Gas	50.369	ug/l	624271.41
Mn	55	72	3	He	52.406	ug/l	63377.41
Fe	56	72	2	H2	1291.646	ug/l	9101342.69
Fe	56	72	3	He	1270.993	ug/l	2083294.99
Co	59	72	1	No Gas	49.916	ug/l	496845.67
Ni	60	72	1	No Gas	51.286	ug/l	110067.02
Ni	60	72	3	He	53.021	ug/l	38451.60
Cu	63	72	1	No Gas	50.832	ug/l	276703.46
Cu	63	72	3	He	55.357	ug/l	106579.18
Cu	65	72	1	No Gas	52.263	ug/l	132893.85
Zn	66	72	1	No Gas	52.404	ug/l	102641.45
Zn	66	72	3	He	54.218	ug/l	24095.57
As	75	72	1	No Gas	54.036	ug/l	150110.08
As	75	72	3	He	52.546	ug/l	23525.19
Se	78	72	2	H2	54.722	ug/l	15490.90
Br	79	72	1	No Gas	-0.148	ug/l	5084.16
Br	79	72	2	H2	-0.025	ug/l	3160.75
Se	82	72	1	No Gas	54.173	ug/l	8551.61
Kr	84	72	1	No Gas		ug/l	18215.56
Sr	88	72	1	No Gas	53.909	ug/l	961902.88
Sr	88	72	3	He	54.105	ug/l	108830.08
Mo	95	115	1	No Gas	50.228	ug/l	173318.37
Mo	95	115	3	He	52.338	ug/l	68343.95
Mo	98	115	1	No Gas	51.819	ug/l	290559.59
Ag	107	115	1	No Gas	20.722	ug/l	196805.81
Ag	109	115	1	No Gas	20.633	ug/l	191282.62
Cd	111	115	1	No Gas	53.414	ug/l	115251.91

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	55.495	ug/l	40479.25
Cd	114	115	1	No Gas	51.571	ug/l	262283.35
Cd	114	115	3	He	55.968	ug/l	100204.85
Sn	118	115	1	No Gas	51.273	ug/l	326939.33
Sn	118	115	3	He	51.352	ug/l	91704.95
Sb	121	115	1	No Gas	52.773	ug/l	564179.06
Sb	121	115	3	He	52.847	ug/l	154701.47
Sb	123	115	1	No Gas	52.194	ug/l	433369.29
Sb	123	115	3	He	52.455	ug/l	123293.08
Ba	135	115	1	No Gas	52.368	ug/l	109583.31
Ba	137	115	1	No Gas	52.546	ug/l	188040.00
La	139	115	3	He	49.485	ug/l	510521.54
Ce	140	115	3	He	49.817	ug/l	557547.66
Hg	201	209	1	No Gas	0.974	ug/l	1729.43
Hg	202	209	1	No Gas	0.951	ug/l	3879.13
Hg	202	209	3	He	0.955	ug/l	2011.42
Tl	203	209	3	He	52.147	ug/l	251673.65
Tl	205	209	1	No Gas	50.670	ug/l	1225705.97
Tl	205	209	3	He	51.309	ug/l	605082.27
[Pb]	206	209	1	No Gas	51.643	ug/l	432427.68
[Pb]	207	209	1	No Gas	50.614	ug/l	375280.46
Pb	208	209	1	No Gas	51.587	ug/l	1748945.69
Th	232	209	3	He	51.727	ug/l	876583.85
U	238	209	1	No Gas	53.826	ug/l	1816694.68

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1528031.59	88.0
Sc	45	2	H2	1011171.68	97.8
Sc	45	3	He	100840.72	94.2
Ge	72	1	No Gas	503758.77	98.8
Ge	72	2	H2	380783.89	99.2
Ge	72	3	He	79119.16	102.1
In	115	1	No Gas	3747387.87	95.6
In	115	3	He	880779.48	100.8
Tb	159	1	No Gas	5844227.62	94.8
Tb	159	3	He	2548148.94	99.7
Ho	165	1	No Gas	5880414.27	96.2
Ho	165	3	He	2614081.80	100.2
Lu	175	1	No Gas	6154706.99	95.5
Lu	175	3	He	2140633.68	99.1
Bi	209	1	No Gas	4334996.72	93.5
Bi	209	3	He	2098927.83	98.2

ICPMS207-B Analytical Data

Sample Name 100 ppb STD
File Name 110CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:46:34
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	1113.255	ug/l	2229968.39
Be	9	45	1	No Gas	91.665	ug/l	105365.71
B	11	45	1	No Gas	94.882	ug/l	66347.55
Na	23	45	3	He	24724.162	ug/l	8093922.03
Mg	24	45	3	He	24959.748	ug/l	4417201.54
Al	27	45	1	No Gas	96.264	ug/l	595395.51
Si	28	45	2	H2	393.832	ug/l	363809.54
K	39	72	3	He	24600.423	ug/l	4411275.46
Ca	40	72	2	H2	24400.586	ug/l	85001255.76
Ti	47	72	1	No Gas	99.661	ug/l	71144.45
V	51	72	1	No Gas	94.671	ug/l	835553.00
V	51	72	3	He	95.401	ug/l	184831.79
Cr	52	72	1	No Gas	95.684	ug/l	879316.44
Cr	52	72	3	He	97.634	ug/l	186097.60
Mn	55	72	1	No Gas	97.590	ug/l	1209116.67
Mn	55	72	3	He	100.547	ug/l	125387.55
Fe	56	72	2	H2	2575.526	ug/l	18754840.43
Fe	56	72	3	He	2651.223	ug/l	4480516.04
Co	59	72	1	No Gas	95.390	ug/l	955148.84
Ni	60	72	1	No Gas	97.483	ug/l	210238.27
Ni	60	72	3	He	100.816	ug/l	75389.07
Cu	63	72	1	No Gas	97.867	ug/l	534951.12
Cu	63	72	3	He	104.188	ug/l	206571.50
Cu	65	72	1	No Gas	99.843	ug/l	255014.00
Zn	66	72	1	No Gas	103.283	ug/l	203169.27
Zn	66	72	3	He	104.395	ug/l	47806.08
As	75	72	1	No Gas	101.981	ug/l	273205.06
As	75	72	3	He	101.291	ug/l	46530.28
Se	78	72	2	H2	101.770	ug/l	29760.23
Br	79	72	1	No Gas	-0.030	ug/l	5876.23
Br	79	72	2	H2	0.066	ug/l	3676.53
Se	82	72	1	No Gas	103.985	ug/l	16065.68
Kr	84	72	1	No Gas		ug/l	24739.08
Sr	88	72	1	No Gas	101.402	ug/l	1820895.51
Sr	88	72	3	He	103.761	ug/l	215323.18
Mo	95	115	1	No Gas	99.931	ug/l	346297.08
Mo	95	115	3	He	98.804	ug/l	133069.95
Mo	98	115	1	No Gas	99.108	ug/l	558009.77
Ag	107	115	1	No Gas	39.640	ug/l	377746.25
Ag	109	115	1	No Gas	39.687	ug/l	368985.50
Cd	111	115	1	No Gas	101.643	ug/l	220281.84

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	102.797	ug/l	77335.80
Cd	114	115	1	No Gas	97.399	ug/l	497700.50
Cd	114	115	3	He	103.437	ug/l	190998.18
Sn	118	115	1	No Gas	99.308	ug/l	634965.99
Sn	118	115	3	He	99.233	ug/l	182380.56
Sb	121	115	1	No Gas	98.646	ug/l	1059172.36
Sb	121	115	3	He	98.564	ug/l	297469.51
Sb	123	115	1	No Gas	98.944	ug/l	825077.27
Sb	123	115	3	He	98.770	ug/l	239336.75
Ba	135	115	1	No Gas	100.394	ug/l	211042.54
Ba	137	115	1	No Gas	100.757	ug/l	362063.95
La	139	115	3	He	100.207	ug/l	1066320.46
Ce	140	115	3	He	100.045	ug/l	1154851.82
Hg	201	209	1	No Gas	2.015	ug/l	3523.77
Hg	202	209	1	No Gas	2.025	ug/l	8119.19
Hg	202	209	3	He	2.023	ug/l	4131.48
Tl	203	209	3	He	99.761	ug/l	468765.42
Tl	205	209	1	No Gas	97.500	ug/l	2331785.03
Tl	205	209	3	He	100.136	ug/l	1149449.21
[Pb]	206	209	1	No Gas	95.691	ug/l	790728.75
[Pb]	207	209	1	No Gas	94.674	ug/l	692949.26
Pb	208	209	1	No Gas	96.144	ug/l	3218061.56
Th	232	209	3	He	101.736	ug/l	1680391.08
U	238	209	1	No Gas	99.301	ug/l	3314800.76

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1612149.47	92.8
Sc	45	2	H2	1061625.69	102.7
Sc	45	3	He	111636.32	104.2
Ge	72	1	No Gas	507074.58	99.5
Ge	72	2	H2	393657.64	102.5
Ge	72	3	He	81642.87	105.4
In	115	1	No Gas	3766436.72	96.1
In	115	3	He	908457.85	104.0
Tb	159	1	No Gas	5847543.69	94.8
Tb	159	3	He	2614395.16	102.3
Ho	165	1	No Gas	5962239.89	97.5
Ho	165	3	He	2690682.25	103.1
Lu	175	1	No Gas	6147336.75	95.4
Lu	175	3	He	2221651.52	102.9
Bi	209	1	No Gas	4287250.69	92.5
Bi	209	3	He	2046546.83	95.7

ICPMS207-B Analytical Data

Sample Name 1000 ppb STD
File Name 111CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:52:59
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	2582.968	ug/l	5886850.77
Be	9	45	1	No Gas	1000.825	ug/l	1310529.93
B	11	45	1	No Gas	1000.469	ug/l	775322.01
Na	23	45	3	He	50127.951	ug/l	18516319.45
Mg	24	45	3	He	50030.375	ug/l	10028237.43
Al	27	45	1	No Gas	1000.345	ug/l	6943337.19
Si	28	45	2	H2	-1.258	ug/l	8096.78
K	39	72	3	He	50498.190	ug/l	9921294.78
Ca	40	72	2	H2	50428.733	ug/l	184166880.39
Ti	47	72	1	No Gas	6.275	ug/l	4919.12
V	51	72	1	No Gas	1000.031	ug/l	10597880.14
V	51	72	3	He	1000.508	ug/l	1894046.69
Cr	52	72	1	No Gas	1000.455	ug/l	9404219.41
Cr	52	72	3	He	1000.181	ug/l	2096267.00
Mn	55	72	1	No Gas	1000.221	ug/l	13242282.65
Mn	55	72	3	He	999.818	ug/l	1375680.26
Fe	56	72	2	H2	6011.867	ug/l	45908539.84
Fe	56	72	3	He	5983.324	ug/l	11160505.53
Co	59	72	1	No Gas	1000.465	ug/l	10773775.33
Ni	60	72	1	No Gas	1000.186	ug/l	2317128.15
Ni	60	72	3	He	999.757	ug/l	824909.62
Cu	63	72	1	No Gas	1000.168	ug/l	5870376.18
Cu	63	72	3	He	999.298	ug/l	2182905.24
Cu	65	72	1	No Gas	999.896	ug/l	2740255.85
Zn	66	72	1	No Gas	999.543	ug/l	2113874.60
Zn	66	72	3	He	999.336	ug/l	504728.76
As	75	72	1	No Gas	999.628	ug/l	2755412.15
As	75	72	3	He	999.738	ug/l	504254.30
Se	78	72	2	H2	999.581	ug/l	306367.36
Br	79	72	1	No Gas	-0.001	ug/l	6525.21
Br	79	72	2	H2	1.124	ug/l	8791.96
Se	82	72	1	No Gas	999.383	ug/l	161435.72
Kr	84	72	1	No Gas		ug/l	130989.24
Sr	88	72	1	No Gas	999.658	ug/l	19316708.75
Sr	88	72	3	He	999.410	ug/l	2289161.70
Mo	95	115	1	No Gas	0.104	ug/l	415.56
Mo	95	115	3	He	0.069	ug/l	113.33
Mo	98	115	1	No Gas	0.106	ug/l	679.82
Ag	107	115	1	No Gas	341.946	ug/l	3400516.54
Ag	109	115	1	No Gas	347.373	ug/l	3372507.61
Cd	111	115	1	No Gas	999.664	ug/l	2265077.64

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	999.439	ug/l	793915.27
Cd	114	115	1	No Gas	1000.185	ug/l	5342914.15
Cd	114	115	3	He	999.350	ug/l	1948452.38
Sn	118	115	1	No Gas	0.873	ug/l	7380.65
Sn	118	115	3	He	0.860	ug/l	2133.51
Sb	121	115	1	No Gas	0.197	ug/l	2817.90
Sb	121	115	3	He	0.154	ug/l	666.42
Sb	123	115	1	No Gas	0.204	ug/l	2252.08
Sb	123	115	3	He	0.163	ug/l	549.07
Ba	135	115	1	No Gas	999.843	ug/l	2195595.01
Ba	137	115	1	No Gas	999.800	ug/l	3757002.08
La	139	115	3	He	0.007	ug/l	92.22
Ce	140	115	3	He	0.022	ug/l	288.90
Hg	201	209	1	No Gas	0.013	ug/l	36.66
Hg	202	209	1	No Gas	0.016	ug/l	109.31
Hg	202	209	3	He	0.016	ug/l	50.32
Tl	203	209	3	He	999.918	ug/l	4653343.11
Tl	205	209	1	No Gas	1000.223	ug/l	23468374.10
Tl	205	209	3	He	999.924	ug/l	11369683.53
[Pb]	206	209	1	No Gas	1000.355	ug/l	8105985.64
[Pb]	207	209	1	No Gas	1000.511	ug/l	7177672.67
Pb	208	209	1	No Gas	1000.313	ug/l	32826746.53
Th	232	209	3	He	999.747	ug/l	16370055.15
U	238	209	1	No Gas	999.883	ug/l	32795894.73

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1836918.48	105.8
Sc	45	2	H2	1136447.92	110.0
Sc	45	3	He	126515.77	118.1
Ge	72	1	No Gas	545478.75	107.0
Ge	72	2	H2	413165.89	107.6
Ge	72	3	He	90173.33	116.4
In	115	1	No Gas	3934493.51	100.4
In	115	3	He	959397.58	109.8
Tb	159	1	No Gas	6005369.95	97.4
Tb	159	3	He	2642906.93	103.4
Ho	165	1	No Gas	5964731.08	97.5
Ho	165	3	He	2641080.00	101.2
Lu	175	1	No Gas	6236215.47	96.8
Lu	175	3	He	2236245.78	103.5
Bi	209	1	No Gas	4211397.58	90.8
Bi	209	3	He	2029769.42	94.9

ICPMS207-B Analytical Data

Sample Name 100 ppb Br STD
File Name 112CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-01-31 23:59:23
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	4.808	ug/l	19316.68
Be	9	45	1	No Gas	0.293	ug/l	451.59
B	11	45	1	No Gas	13.520	ug/l	12283.27
Na	23	45	3	He	-25.577	ug/l	60382.68
Mg	24	45	3	He	-3.737	ug/l	2814.68
Al	27	45	1	No Gas	0.056	ug/l	11712.42
Si	28	45	2	H2	0.645	ug/l	9426.76
K	39	72	3	He	701.480	ug/l	189007.66
Ca	40	72	2	H2	14.166	ug/l	129316.66
Ti	47	72	1	No Gas	0.244	ug/l	293.64
V	51	72	1	No Gas	10.741	ug/l	2852.27
V	51	72	3	He	-3.766	ug/l	16927.63
Cr	52	72	1	No Gas	0.991	ug/l	61463.31
Cr	52	72	3	He	0.058	ug/l	987.82
Mn	55	72	1	No Gas	0.152	ug/l	11611.61
Mn	55	72	3	He	0.049	ug/l	169.97
Fe	56	72	2	H2	0.554	ug/l	11359.18
Fe	56	72	3	He	0.646	ug/l	4403.44
Co	59	72	1	No Gas	0.040	ug/l	685.33
Ni	60	72	1	No Gas	0.021	ug/l	382.58
Ni	60	72	3	He	0.015	ug/l	80.00
Cu	63	72	1	No Gas	0.116	ug/l	2089.66
Cu	63	72	3	He	0.078	ug/l	653.88
Cu	65	72	1	No Gas	0.056	ug/l	815.69
Zn	66	72	1	No Gas	0.138	ug/l	587.41
Zn	66	72	3	He	0.083	ug/l	103.33
As	75	72	1	No Gas	-0.157	ug/l	13903.40
As	75	72	3	He	0.143	ug/l	350.53
Se	78	72	2	H2	0.269	ug/l	108.55
Br	79	72	1	No Gas	100.000	ug/l	698147.50
Br	79	72	2	H2	100.000	ug/l	456472.25
Se	82	72	1	No Gas	2.059	ug/l	861.94
Kr	84	72	1	No Gas		ug/l	13835.95
Sr	88	72	1	No Gas	0.022	ug/l	652.06
Sr	88	72	3	He	0.022	ug/l	100.00
Mo	95	115	1	No Gas	0.014	ug/l	91.11
Mo	95	115	3	He	0.013	ug/l	33.33
Mo	98	115	1	No Gas	0.014	ug/l	137.29
Ag	107	115	1	No Gas	0.173	ug/l	2405.18
Ag	109	115	1	No Gas	0.162	ug/l	2265.76
Cd	111	115	1	No Gas	0.026	ug/l	53.87

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.021	ug/l	24.22
Cd	114	115	1	No Gas	0.021	ug/l	66.89
Cd	114	115	3	He	0.019	ug/l	54.38
Sn	118	115	1	No Gas	1.261	ug/l	10030.41
Sn	118	115	3	He	1.275	ug/l	2833.64
Sb	121	115	1	No Gas	0.033	ug/l	980.80
Sb	121	115	3	He	0.030	ug/l	263.36
Sb	123	115	1	No Gas	0.030	ug/l	735.10
Sb	123	115	3	He	0.031	ug/l	203.69
Ba	135	115	1	No Gas	0.033	ug/l	86.49
Ba	137	115	1	No Gas	0.032	ug/l	149.70
La	139	115	3	He	0.001	ug/l	21.11
Ce	140	115	3	He	0.001	ug/l	28.89
Hg	201	209	1	No Gas	0.005	ug/l	23.33
Hg	202	209	1	No Gas	0.007	ug/l	73.32
Hg	202	209	3	He	0.005	ug/l	28.99
Tl	203	209	3	He	0.237	ug/l	1898.90
Tl	205	209	1	No Gas	0.289	ug/l	9793.65
Tl	205	209	3	He	0.232	ug/l	4618.66
[Pb]	206	209	1	No Gas	0.075	ug/l	2514.70
[Pb]	207	209	1	No Gas	0.055	ug/l	2102.40
Pb	208	209	1	No Gas	0.068	ug/l	9898.19
Th	232	209	3	He	0.495	ug/l	9078.16
U	238	209	1	No Gas	0.041	ug/l	1453.46

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1761743.07	101.5
Sc	45	2	H2	1078461.14	104.3
Sc	45	3	He	108544.97	101.3
Ge	72	1	No Gas	540885.53	106.1
Ge	72	2	H2	400612.26	104.3
Ge	72	3	He	80454.29	103.8
In	115	1	No Gas	3958612.02	101.0
In	115	3	He	925722.86	105.9
Tb	159	1	No Gas	5917786.28	96.0
Tb	159	3	He	2606383.45	102.0
Ho	165	1	No Gas	5862237.71	95.9
Ho	165	3	He	2613454.09	100.2
Lu	175	1	No Gas	5982020.51	92.8
Lu	175	3	He	2169634.63	100.4
Bi	209	1	No Gas	4340929.51	93.6
Bi	209	3	He	2097390.74	98.1

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 113BLKV.d
Data Path Name D:\Agilent\ICPMH1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:05:47
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	1.138	ug/l	10918.97
Be	9	45	1	No Gas	0.118	ug/l	223.29
B	11	45	1	No Gas	4.580	ug/l	5459.86
Na	23	45	3	He	-26.216	ug/l	59588.42
Mg	24	45	3	He	1.482	ug/l	3673.18
Al	27	45	1	No Gas	1.001	ug/l	17341.23
Si	28	45	2	H2	-3.291	ug/l	5818.15
K	39	72	3	He	-20.330	ug/l	64123.28
Ca	40	72	2	H2	3.022	ug/l	88374.74
Ti	47	72	1	No Gas	0.050	ug/l	141.81
V	51	72	1	No Gas	10.012	ug/l	-4731.84
V	51	72	3	He	-6.063	ug/l	13247.14
Cr	52	72	1	No Gas	-0.757	ug/l	43955.85
Cr	52	72	3	He	-0.010	ug/l	870.03
Mn	55	72	1	No Gas	-0.082	ug/l	8282.62
Mn	55	72	3	He	-0.013	ug/l	95.31
Fe	56	72	2	H2	-0.005	ug/l	7098.87
Fe	56	72	3	He	-0.057	ug/l	3268.67
Co	59	72	1	No Gas	0.009	ug/l	339.33
Ni	60	72	1	No Gas	0.006	ug/l	339.33
Ni	60	72	3	He	0.021	ug/l	85.56
Cu	63	72	1	No Gas	0.003	ug/l	1387.96
Cu	63	72	3	He	-0.002	ug/l	503.58
Cu	65	72	1	No Gas	-0.002	ug/l	636.94
Zn	66	72	1	No Gas	-0.001	ug/l	288.29
Zn	66	72	3	He	0.020	ug/l	75.56
As	75	72	1	No Gas	-1.510	ug/l	9920.36
As	75	72	3	He	-0.114	ug/l	237.47
Se	78	72	2	H2	0.065	ug/l	47.33
Br	79	72	1	No Gas	2.501	ug/l	23079.55
Br	79	72	2	H2	1.817	ug/l	11481.84
Se	82	72	1	No Gas	0.756	ug/l	635.41
Kr	84	72	1	No Gas		ug/l	14072.35
Sr	88	72	1	No Gas	0.003	ug/l	282.78
Sr	88	72	3	He	0.001	ug/l	57.78
Mo	95	115	1	No Gas	0.011	ug/l	78.90
Mo	95	115	3	He	-0.002	ug/l	12.22
Mo	98	115	1	No Gas	-0.001	ug/l	47.78
Ag	107	115	1	No Gas	0.010	ug/l	751.66
Ag	109	115	1	No Gas	0.006	ug/l	725.64
Cd	111	115	1	No Gas	0.024	ug/l	48.01

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	13.67
Cd	114	115	1	No Gas	0.017	ug/l	45.28
Cd	114	115	3	He	0.009	ug/l	34.91
Sn	118	115	1	No Gas	-0.017	ug/l	1420.60
Sn	118	115	3	He	0.007	ug/l	464.46
Sb	121	115	1	No Gas	-0.008	ug/l	508.39
Sb	121	115	3	He	-0.011	ug/l	135.35
Sb	123	115	1	No Gas	-0.009	ug/l	388.04
Sb	123	115	3	He	-0.006	ug/l	113.34
Ba	135	115	1	No Gas	0.000	ug/l	13.31
Ba	137	115	1	No Gas	0.001	ug/l	33.27
La	139	115	3	He	0.000	ug/l	6.67
Ce	140	115	3	He	-0.001	ug/l	6.67
Hg	201	209	1	No Gas	0.000	ug/l	15.67
Hg	202	209	1	No Gas	0.001	ug/l	49.32
Hg	202	209	3	He	0.002	ug/l	23.66
Tl	203	209	3	He	0.059	ug/l	1075.15
Tl	205	209	1	No Gas	0.080	ug/l	4704.19
Tl	205	209	3	He	0.055	ug/l	2630.66
[Pb]	206	209	1	No Gas	0.033	ug/l	2151.30
[Pb]	207	209	1	No Gas	0.015	ug/l	1791.24
Pb	208	209	1	No Gas	0.026	ug/l	8433.33
Th	232	209	3	He	0.056	ug/l	1704.13
U	238	209	1	No Gas	0.008	ug/l	344.96

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1697587.15	97.8
Sc	45	2	H2	1077802.62	104.3
Sc	45	3	He	107465.52	100.3
Ge	72	1	No Gas	525114.91	103.0
Ge	72	2	H2	394009.13	102.6
Ge	72	3	He	81347.90	105.0
In	115	1	No Gas	3865031.66	98.6
In	115	3	He	922571.58	105.6
Tb	159	1	No Gas	6061280.86	98.3
Tb	159	3	He	2639599.43	103.3
Ho	165	1	No Gas	5851561.93	95.7
Ho	165	3	He	2661714.02	102.0
Lu	175	1	No Gas	6136747.26	95.2
Lu	175	3	He	2183542.89	101.1
Bi	209	1	No Gas	4311885.42	93.0
Bi	209	3	He	2164154.49	101.2

ICPMS207-B Analytical Data

Sample Name QCS
File Name 114_QC1.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:12:02
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	46.462	ug/l	105629.07
Be	9	45	1	No Gas	23.070	ug/l	27839.06
B	11	45	1	No Gas	55.041	ug/l	41241.72
Na	23	45	3	He	2623.532	ug/l	864573.77
Mg	24	45	3	He	2711.760	ug/l	452902.80
Al	27	45	1	No Gas	248.420	ug/l	1593140.98
Si	28	45	2	H2	498.456	ug/l	464208.44
K	39	72	3	He	2451.208	ug/l	508067.91
Ca	40	72	2	H2	2635.661	ug/l	9346463.22
Ti	47	72	1	No Gas	50.086	ug/l	37359.90
V	51	72	1	No Gas	51.359	ug/l	423749.61
V	51	72	3	He	42.966	ug/l	97622.58
Cr	52	72	1	No Gas	49.248	ug/l	496904.97
Cr	52	72	3	He	49.072	ug/l	95362.83
Mn	55	72	1	No Gas	261.581	ug/l	3363333.00
Mn	55	72	3	He	255.583	ug/l	323236.48
Fe	56	72	2	H2	258.442	ug/l	1907847.56
Fe	56	72	3	He	253.559	ug/l	437919.43
Co	59	72	1	No Gas	48.812	ug/l	509948.76
Ni	60	72	1	No Gas	51.258	ug/l	115403.09
Ni	60	72	3	He	52.021	ug/l	39508.97
Cu	63	72	1	No Gas	50.450	ug/l	288308.09
Cu	63	72	3	He	54.378	ug/l	109640.56
Cu	65	72	1	No Gas	52.165	ug/l	139227.95
Zn	66	72	1	No Gas	54.171	ug/l	111337.63
Zn	66	72	3	He	55.327	ug/l	25735.05
As	75	72	1	No Gas	49.530	ug/l	145649.65
As	75	72	3	He	50.818	ug/l	23833.88
Se	78	72	2	H2	52.977	ug/l	15665.20
Br	79	72	1	No Gas	0.395	ug/l	9004.96
Br	79	72	2	H2	0.465	ug/l	5506.82
Se	82	72	1	No Gas	51.141	ug/l	8503.14
Kr	84	72	1	No Gas		ug/l	19914.30
Sr	88	72	1	No Gas	51.728	ug/l	969040.24
Sr	88	72	3	He	53.348	ug/l	112364.13
Mo	95	115	1	No Gas	48.531	ug/l	172687.37
Mo	95	115	3	He	49.285	ug/l	67581.39
Mo	98	115	1	No Gas	48.407	ug/l	279789.56
Ag	107	115	1	No Gas	25.201	ug/l	246700.67
Ag	109	115	1	No Gas	24.530	ug/l	234360.76
Cd	111	115	1	No Gas	25.666	ug/l	57103.69

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	26.444	ug/l	20258.61
Cd	114	115	1	No Gas	24.629	ug/l	129151.37
Cd	114	115	3	He	26.600	ug/l	50012.17
Sn	118	115	1	No Gas	49.276	ug/l	324072.70
Sn	118	115	3	He	50.651	ug/l	94956.12
Sb	121	115	1	No Gas	47.389	ug/l	522532.32
Sb	121	115	3	He	49.609	ug/l	152516.16
Sb	123	115	1	No Gas	47.070	ug/l	403083.41
Sb	123	115	3	He	49.150	ug/l	121303.05
Ba	135	115	1	No Gas	53.491	ug/l	115384.42
Ba	137	115	1	No Gas	53.899	ug/l	198921.16
La	139	115	3	He	51.541	ug/l	558240.33
Ce	140	115	3	He	52.022	ug/l	611359.13
Hg	201	209	1	No Gas	0.973	ug/l	1714.44
Hg	202	209	1	No Gas	0.985	ug/l	3985.14
Hg	202	209	3	He	0.968	ug/l	2072.42
Tl	203	209	3	He	50.365	ug/l	247318.96
Tl	205	209	1	No Gas	48.602	ug/l	1166704.38
Tl	205	209	3	He	49.422	ug/l	593022.12
[Pb]	206	209	1	No Gas	48.648	ug/l	404190.69
[Pb]	207	209	1	No Gas	48.673	ug/l	357964.35
Pb	208	209	1	No Gas	48.734	ug/l	1639673.55
Th	232	209	3	He	48.033	ug/l	828261.64
U	238	209	1	No Gas	52.655	ug/l	1762946.19

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1689021.09	97.3
Sc	45	2	H2	1075203.66	104.0
Sc	45	3	He	104684.78	97.7
Ge	72	1	No Gas	528905.59	103.8
Ge	72	2	H2	397716.42	103.6
Ge	72	3	He	82848.64	106.9
In	115	1	No Gas	3864008.82	98.6
In	115	3	He	924932.92	105.8
Tb	159	1	No Gas	6000452.95	97.3
Tb	159	3	He	2669869.33	104.5
Ho	165	1	No Gas	5886239.00	96.3
Ho	165	3	He	2643402.27	101.3
Lu	175	1	No Gas	6082134.11	94.4
Lu	175	3	He	2144423.72	99.3
Bi	209	1	No Gas	4299579.32	92.7
Bi	209	3	He	2135985.51	99.9

ICPMS207-B Analytical Data

Sample Name ICSA
File Name 115ICSA.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:18:16
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	0.790	ug/l	10505.86
Be	9	45	1	No Gas	0.061	ug/l	158.64
B	11	45	1	No Gas	3.108	ug/l	4544.52
Na	23	45	3	He	103627.527	ug/l	34384568.93
Mg	24	45	3	He	42366.256	ug/l	7645147.61
Al	27	45	1	No Gas	38877.180	ug/l	256589929.51
Si	28	45	2	H2	-0.986	ug/l	7855.86
K	39	72	3	He	41488.209	ug/l	7473467.39
Ca	40	72	2	H2	122044.741	ug/l	423221593.35
Ti	47	72	1	No Gas	819.383	ug/l	607951.61
V	51	72	1	No Gas	8.795	ug/l	-17206.36
V	51	72	3	He	-10.801	ug/l	5337.68
Cr	52	72	1	No Gas	-0.967	ug/l	42276.98
Cr	52	72	3	He	0.893	ug/l	2612.47
Mn	55	72	1	No Gas	0.080	ug/l	10403.07
Mn	55	72	3	He	0.226	ug/l	397.59
Fe	56	72	2	H2	101550.403	ug/l	736393941.33
Fe	56	72	3	He	105867.590	ug/l	180726792.09
Co	59	72	1	No Gas	0.323	ug/l	3609.98
Ni	60	72	1	No Gas	0.631	ug/l	1743.32
Ni	60	72	3	He	0.240	ug/l	252.22
Cu	63	72	1	No Gas	2.100	ug/l	13292.71
Cu	63	72	3	He	0.058	ug/l	630.89
Cu	65	72	1	No Gas	0.448	ug/l	1832.86
Zn	66	72	1	No Gas	0.977	ug/l	2291.74
Zn	66	72	3	He	0.696	ug/l	390.01
As	75	72	1	No Gas	-1.396	ug/l	10283.54
As	75	72	3	He	-0.112	ug/l	241.67
Se	78	72	2	H2	0.317	ug/l	120.22
Br	79	72	1	No Gas	0.539	ug/l	9970.32
Br	79	72	2	H2	0.299	ug/l	4694.78
Se	82	72	1	No Gas	-0.239	ug/l	482.74
Kr	84	72	1	No Gas		ug/l	14441.97
Sr	88	72	1	No Gas	1.283	ug/l	24199.06
Sr	88	72	3	He	1.337	ug/l	2856.97
Mo	95	115	1	No Gas	799.660	ug/l	2879126.17
Mo	95	115	3	He	825.858	ug/l	1099286.04
Mo	98	115	1	No Gas	826.514	ug/l	4833556.07
Ag	107	115	1	No Gas	0.011	ug/l	774.34
Ag	109	115	1	No Gas	0.007	ug/l	747.66
Cd	111	115	1	No Gas	0.111	ug/l	247.21

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.179	ug/l	141.56
Cd	114	115	1	No Gas	0.088	ug/l	420.70
Cd	114	115	3	He	0.132	ug/l	257.44
Sn	118	115	1	No Gas	2.289	ug/l	16713.46
Sn	118	115	3	He	2.354	ug/l	4704.15
Sb	121	115	1	No Gas	0.153	ug/l	2300.42
Sb	121	115	3	He	0.115	ug/l	509.73
Sb	123	115	1	No Gas	0.151	ug/l	1777.30
Sb	123	115	3	He	0.203	ug/l	611.98
Ba	135	115	1	No Gas	0.062	ug/l	149.71
Ba	137	115	1	No Gas	0.062	ug/l	262.82
La	139	115	3	He	0.009	ug/l	107.78
Ce	140	115	3	He	0.002	ug/l	42.22
Hg	201	209	1	No Gas	0.010	ug/l	32.99
Hg	202	209	1	No Gas	0.012	ug/l	91.98
Hg	202	209	3	He	0.009	ug/l	35.32
Tl	203	209	3	He	-0.023	ug/l	627.60
Tl	205	209	1	No Gas	0.009	ug/l	2972.58
Tl	205	209	3	He	-0.028	ug/l	1522.04
[Pb]	206	209	1	No Gas	0.016	ug/l	1996.82
[Pb]	207	209	1	No Gas	0.015	ug/l	1782.35
Pb	208	209	1	No Gas	0.017	ug/l	8092.12
Th	232	209	3	He	0.105	ug/l	2414.53
U	238	209	1	No Gas	0.007	ug/l	295.61

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1749794.36	100.8
Sc	45	2	H2	1068635.84	103.4
Sc	45	3	He	113881.66	106.3
Ge	72	1	No Gas	527753.56	103.5
Ge	72	2	H2	392192.61	102.1
Ge	72	3	He	82537.71	106.5
In	115	1	No Gas	3913221.93	99.9
In	115	3	He	897961.48	102.8
Tb	159	1	No Gas	6153496.46	99.8
Tb	159	3	He	2628853.61	102.9
Ho	165	1	No Gas	6088403.87	99.6
Ho	165	3	He	2671803.06	102.4
Lu	175	1	No Gas	6480180.89	100.6
Lu	175	3	He	2229237.05	103.2
Bi	209	1	No Gas	4292597.96	92.6
Bi	209	3	He	2037168.60	95.3

ICPMS207-B Analytical Data

Sample Name ICSAB
File Name 116ICSB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:24:35
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	3.315	ug/l	16997.05
Be	9	45	1	No Gas	0.043	ug/l	145.30
B	11	45	1	No Gas	2.148	ug/l	4081.53
Na	23	45	3	He	105090.419	ug/l	35900796.41
Mg	24	45	3	He	43060.637	ug/l	8000980.54
Al	27	45	1	No Gas	39893.478	ug/l	279965598.05
Si	28	45	2	H2	-1.265	ug/l	7699.78
K	39	72	3	He	41556.032	ug/l	7792071.14
Ca	40	72	2	H2	124686.983	ug/l	439165119.65
Ti	47	72	1	No Gas	853.632	ug/l	655381.83
V	51	72	1	No Gas	31.669	ug/l	227307.11
V	51	72	3	He	9.225	ug/l	41171.91
Cr	52	72	1	No Gas	18.597	ug/l	226666.96
Cr	52	72	3	He	21.159	ug/l	43154.24
Mn	55	72	1	No Gas	20.463	ug/l	280702.13
Mn	55	72	3	He	20.602	ug/l	27121.52
Fe	56	72	2	H2	103332.005	ug/l	761041334.53
Fe	56	72	3	He	106941.862	ug/l	189983188.16
Co	59	72	1	No Gas	20.166	ug/l	217732.68
Ni	60	72	1	No Gas	20.609	ug/l	48127.13
Ni	60	72	3	He	20.867	ug/l	16479.36
Cu	63	72	1	No Gas	22.276	ug/l	132255.85
Cu	63	72	3	He	21.030	ug/l	44301.21
Cu	65	72	1	No Gas	20.851	ug/l	57881.56
Zn	66	72	1	No Gas	10.950	ug/l	23477.60
Zn	66	72	3	He	10.578	ug/l	5158.72
As	75	72	1	No Gas	8.457	ug/l	37672.16
As	75	72	3	He	10.118	ug/l	5164.28
Se	78	72	2	H2	10.493	ug/l	3129.45
Br	79	72	1	No Gas	0.312	ug/l	8725.33
Br	79	72	2	H2	0.226	ug/l	4438.57
Se	82	72	1	No Gas	10.415	ug/l	2216.86
Kr	84	72	1	No Gas		ug/l	15164.58
Sr	88	72	1	No Gas	1.260	ug/l	24605.74
Sr	88	72	3	He	1.297	ug/l	2888.09
Mo	95	115	1	No Gas	804.952	ug/l	2986832.28
Mo	95	115	3	He	831.765	ug/l	1119825.28
Mo	98	115	1	No Gas	834.412	ug/l	5030246.18
Ag	107	115	1	No Gas	4.782	ug/l	49390.85
Ag	109	115	1	No Gas	4.739	ug/l	47800.12
Cd	111	115	1	No Gas	10.001	ug/l	23202.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.550	ug/l	7942.33
Cd	114	115	1	No Gas	9.597	ug/l	52461.04
Cd	114	115	3	He	10.630	ug/l	19639.31
Sn	118	115	1	No Gas	2.280	ug/l	17159.83
Sn	118	115	3	He	2.344	ug/l	4739.72
Sb	121	115	1	No Gas	0.029	ug/l	962.46
Sb	121	115	3	He	0.030	ug/l	257.36
Sb	123	115	1	No Gas	0.029	ug/l	739.10
Sb	123	115	3	He	0.036	ug/l	212.02
Ba	135	115	1	No Gas	0.065	ug/l	159.68
Ba	137	115	1	No Gas	0.066	ug/l	286.10
La	139	115	3	He	0.010	ug/l	111.11
Ce	140	115	3	He	0.002	ug/l	36.67
Hg	201	209	1	No Gas	0.003	ug/l	21.33
Hg	202	209	1	No Gas	0.004	ug/l	64.66
Hg	202	209	3	He	0.006	ug/l	30.32
Tl	203	209	3	He	-0.058	ug/l	463.53
Tl	205	209	1	No Gas	-0.030	ug/l	2115.74
Tl	205	209	3	He	-0.058	ug/l	1173.86
[Pb]	206	209	1	No Gas	0.011	ug/l	2009.06
[Pb]	207	209	1	No Gas	-0.014	ug/l	1613.44
Pb	208	209	1	No Gas	0.002	ug/l	7782.07
Th	232	209	3	He	0.031	ug/l	1198.54
U	238	209	1	No Gas	0.007	ug/l	292.11

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1860542.93	107.1
Sc	45	2	H2	1081447.70	104.6
Sc	45	3	He	117254.06	109.5
Ge	72	1	No Gas	546038.44	107.1
Ge	72	2	H2	398287.63	103.7
Ge	72	3	He	85918.30	110.9
In	115	1	No Gas	4029854.02	102.8
In	115	3	He	908274.07	103.9
Tb	159	1	No Gas	6338302.51	102.8
Tb	159	3	He	2644358.46	103.5
Ho	165	1	No Gas	6300704.60	103.0
Ho	165	3	He	2706225.09	103.7
Lu	175	1	No Gas	6529752.18	101.3
Lu	175	3	He	2248901.77	104.1
Bi	209	1	No Gas	4408400.44	95.1
Bi	209	3	He	2030753.30	95.0

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 117BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:30:53
Sample Type BkVrfy
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	5.648	ug/l	23606.53
Be	9	45	1	No Gas	0.049	ug/l	161.64
B	11	45	1	No Gas	0.925	ug/l	3297.02
Na	23	45	3	He	300.938	ug/l	179022.49
Mg	24	45	3	He	-5.124	ug/l	2821.35
Al	27	45	1	No Gas	1.348	ug/l	22634.94
Si	28	45	2	H2	-3.761	ug/l	5778.78
K	39	72	3	He	4.755	ug/l	73127.80
Ca	40	72	2	H2	3.836	ug/l	96956.29
Ti	47	72	1	No Gas	0.350	ug/l	385.39
V	51	72	1	No Gas	10.167	ug/l	-3345.46
V	51	72	3	He	-11.156	ug/l	4980.88
Cr	52	72	1	No Gas	-3.000	ug/l	25278.35
Cr	52	72	3	He	-0.057	ug/l	832.25
Mn	55	72	1	No Gas	-0.161	ug/l	7743.39
Mn	55	72	3	He	-0.005	ug/l	111.98
Fe	56	72	2	H2	3.844	ug/l	37351.52
Fe	56	72	3	He	2.981	ug/l	8943.40
Co	59	72	1	No Gas	0.004	ug/l	306.06
Ni	60	72	1	No Gas	0.100	ug/l	582.19
Ni	60	72	3	He	0.067	ug/l	127.78
Cu	63	72	1	No Gas	0.167	ug/l	2455.86
Cu	63	72	3	He	0.146	ug/l	847.19
Cu	65	72	1	No Gas	0.183	ug/l	1195.20
Zn	66	72	1	No Gas	0.072	ug/l	461.99
Zn	66	72	3	He	0.078	ug/l	108.89
As	75	72	1	No Gas	-1.765	ug/l	9863.10
As	75	72	3	He	-0.250	ug/l	187.40
Se	78	72	2	H2	-0.003	ug/l	29.00
Br	79	72	1	No Gas	0.122	ug/l	7557.02
Br	79	72	2	H2	0.146	ug/l	4288.83
Se	82	72	1	No Gas	-0.495	ug/l	467.81
Kr	84	72	1	No Gas		ug/l	15361.13
Sr	88	72	1	No Gas	-0.001	ug/l	212.92
Sr	88	72	3	He	-0.003	ug/l	52.22
Mo	95	115	1	No Gas	0.296	ug/l	1172.28
Mo	95	115	3	He	0.193	ug/l	291.11
Mo	98	115	1	No Gas	0.305	ug/l	1945.70
Ag	107	115	1	No Gas	0.012	ug/l	830.36
Ag	109	115	1	No Gas	0.002	ug/l	738.98
Cd	111	115	1	No Gas	0.019	ug/l	39.73

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	11.22
Cd	114	115	1	No Gas	0.012	ug/l	20.60
Cd	114	115	3	He	0.000	ug/l	17.84
Sn	118	115	1	No Gas	-0.021	ug/l	1497.11
Sn	118	115	3	He	-0.014	ug/l	442.23
Sb	121	115	1	No Gas	-0.016	ug/l	452.72
Sb	121	115	3	He	-0.012	ug/l	138.35
Sb	123	115	1	No Gas	-0.015	ug/l	359.37
Sb	123	115	3	He	-0.011	ug/l	105.34
Ba	135	115	1	No Gas	0.011	ug/l	39.92
Ba	137	115	1	No Gas	0.001	ug/l	36.59
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	-0.001	ug/l	8.89
Hg	201	209	1	No Gas	0.002	ug/l	20.66
Hg	202	209	1	No Gas	-0.002	ug/l	41.66
Hg	202	209	3	He	0.000	ug/l	19.67
Tl	203	209	3	He	-0.053	ug/l	513.55
Tl	205	209	1	No Gas	-0.028	ug/l	2243.54
Tl	205	209	3	He	-0.062	ug/l	1187.87
[Pb]	206	209	1	No Gas	0.012	ug/l	2100.18
[Pb]	207	209	1	No Gas	-0.001	ug/l	1784.58
Pb	208	209	1	No Gas	0.001	ug/l	8084.34
Th	232	209	3	He	-0.012	ug/l	525.56
U	238	209	1	No Gas	0.001	ug/l	88.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1964544.09	113.1
Sc	45	2	H2	1157123.99	112.0
Sc	45	3	He	118933.22	111.0
Ge	72	1	No Gas	557864.96	109.4
Ge	72	2	H2	418771.77	109.0
Ge	72	3	He	86798.28	112.0
In	115	1	No Gas	4148949.77	105.9
In	115	3	He	959406.19	109.8
Tb	159	1	No Gas	6283217.16	101.9
Tb	159	3	He	2714597.23	106.2
Ho	165	1	No Gas	6316255.51	103.3
Ho	165	3	He	2685683.98	102.9
Lu	175	1	No Gas	6577184.97	102.1
Lu	175	3	He	2207256.71	102.2
Bi	209	1	No Gas	4586519.90	98.9
Bi	209	3	He	2133345.18	99.8

ICPMS207-B Analytical Data

Sample Name CCV
File Name 118_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:37:06
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	636.691	ug/l	1505445.87
Be	9	45	1	No Gas	51.138	ug/l	69229.60
B	11	45	1	No Gas	53.458	ug/l	45083.28
Na	23	45	3	He	12948.795	ug/l	4527148.44
Mg	24	45	3	He	12919.719	ug/l	2424752.28
Al	27	45	1	No Gas	53.223	ug/l	393127.43
Si	28	45	2	H2	219.722	ug/l	218703.74
K	39	72	3	He	12881.558	ug/l	2482629.62
Ca	40	72	2	H2	12659.533	ug/l	46105664.46
Ti	47	72	1	No Gas	56.047	ug/l	43673.27
V	51	72	1	No Gas	65.991	ug/l	602738.89
V	51	72	3	He	43.835	ug/l	103513.68
Cr	52	72	1	No Gas	53.903	ug/l	563668.84
Cr	52	72	3	He	54.104	ug/l	109726.01
Mn	55	72	1	No Gas	53.683	ug/l	729492.82
Mn	55	72	3	He	54.686	ug/l	72340.96
Fe	56	72	2	H2	1320.131	ug/l	10041958.06
Fe	56	72	3	He	1323.138	ug/l	2371941.05
Co	59	72	1	No Gas	52.991	ug/l	578828.64
Ni	60	72	1	No Gas	55.146	ug/l	129844.45
Ni	60	72	3	He	55.504	ug/l	44026.18
Cu	63	72	1	No Gas	54.999	ug/l	328472.62
Cu	63	72	3	He	57.008	ug/l	120049.61
Cu	65	72	1	No Gas	56.222	ug/l	156830.86
Zn	66	72	1	No Gas	57.988	ug/l	124572.48
Zn	66	72	3	He	55.873	ug/l	27153.06
As	75	72	1	No Gas	54.584	ug/l	166200.38
As	75	72	3	He	54.470	ug/l	26664.64
Se	78	72	2	H2	55.014	ug/l	16816.48
Br	79	72	1	No Gas	0.017	ug/l	6748.20
Br	79	72	2	H2	0.040	ug/l	3716.47
Se	82	72	1	No Gas	55.992	ug/l	9684.76
Kr	84	72	1	No Gas		ug/l	22039.82
Sr	88	72	1	No Gas	54.670	ug/l	1070657.21
Sr	88	72	3	He	55.971	ug/l	123139.43
Mo	95	115	1	No Gas	52.071	ug/l	192237.61
Mo	95	115	3	He	52.580	ug/l	73724.83
Mo	98	115	1	No Gas	53.606	ug/l	321673.60
Ag	107	115	1	No Gas	21.441	ug/l	217950.47
Ag	109	115	1	No Gas	21.085	ug/l	209233.60
Cd	111	115	1	No Gas	54.230	ug/l	125236.54

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.768	ug/l	42892.52
Cd	114	115	1	No Gas	52.398	ug/l	285222.35
Cd	114	115	3	He	54.879	ug/l	105486.57
Sn	118	115	1	No Gas	51.777	ug/l	353418.55
Sn	118	115	3	He	51.022	ug/l	97832.01
Sb	121	115	1	No Gas	52.962	ug/l	606082.66
Sb	121	115	3	He	52.087	ug/l	163721.40
Sb	123	115	1	No Gas	52.264	ug/l	464492.03
Sb	123	115	3	He	51.732	ug/l	130545.58
Ba	135	115	1	No Gas	53.688	ug/l	120214.94
Ba	137	115	1	No Gas	53.515	ug/l	205027.36
La	139	115	3	He	48.222	ug/l	534163.02
Ce	140	115	3	He	48.264	ug/l	579883.97
Hg	201	209	1	No Gas	0.955	ug/l	1761.77
Hg	202	209	1	No Gas	0.929	ug/l	3936.13
Hg	202	209	3	He	0.923	ug/l	1932.09
Tl	203	209	3	He	52.460	ug/l	251613.05
Tl	205	209	1	No Gas	48.998	ug/l	1231109.52
Tl	205	209	3	He	50.848	ug/l	595982.32
[Pb]	206	209	1	No Gas	50.631	ug/l	440184.70
[Pb]	207	209	1	No Gas	49.261	ug/l	379303.53
Pb	208	209	1	No Gas	50.068	ug/l	1763050.30
Th	232	209	3	He	51.129	ug/l	861043.10
U	238	209	1	No Gas	50.979	ug/l	1786689.48

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1897600.94	109.3
Sc	45	2	H2	1122307.93	108.6
Sc	45	3	He	118345.34	110.5
Ge	72	1	No Gas	552847.79	108.4
Ge	72	2	H2	411203.77	107.1
Ge	72	3	He	86540.67	111.7
In	115	1	No Gas	4009962.27	102.3
In	115	3	He	945699.57	108.2
Tb	159	1	No Gas	6064807.09	98.4
Tb	159	3	He	2652759.28	103.8
Ho	165	1	No Gas	6082315.54	99.5
Ho	165	3	He	2624405.17	100.6
Lu	175	1	No Gas	6435692.29	99.9
Lu	175	3	He	2208041.74	102.2
Bi	209	1	No Gas	4501183.82	97.1
Bi	209	3	He	2086223.57	97.6

ICPMS207-B Analytical Data

Sample Name CCB
File Name 119_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220131ADoD.b
Acq Time 2022-02-01 00:43:21
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	1.708	ug/l	13612.89
Be	9	45	1	No Gas	0.061	ug/l	172.97
B	11	45	1	No Gas	1.082	ug/l	3328.37
Na	23	45	3	He	20.665	ug/l	79492.85
Mg	24	45	3	He	-5.349	ug/l	2688.25
Al	27	45	1	No Gas	0.030	ug/l	12503.03
Si	28	45	2	H2	-3.844	ug/l	5543.25
K	39	72	3	He	12.407	ug/l	71333.47
Ca	40	72	2	H2	1.806	ug/l	87161.28
Ti	47	72	1	No Gas	0.166	ug/l	233.57
V	51	72	1	No Gas	12.573	ug/l	22147.29
V	51	72	3	He	-9.096	ug/l	8307.94
Cr	52	72	1	No Gas	-2.103	ug/l	32588.33
Cr	52	72	3	He	-0.056	ug/l	797.81
Mn	55	72	1	No Gas	-0.123	ug/l	7949.76
Mn	55	72	3	He	-0.013	ug/l	96.31
Fe	56	72	2	H2	1.683	ug/l	20093.93
Fe	56	72	3	He	1.531	ug/l	6065.70
Co	59	72	1	No Gas	0.010	ug/l	359.29
Ni	60	72	1	No Gas	0.102	ug/l	565.56
Ni	60	72	3	He	0.109	ug/l	154.45
Cu	63	72	1	No Gas	0.236	ug/l	2770.71
Cu	63	72	3	He	0.205	ug/l	930.85
Cu	65	72	1	No Gas	0.240	ug/l	1306.59
Zn	66	72	1	No Gas	0.005	ug/l	308.77
Zn	66	72	3	He	-0.055	ug/l	42.22
As	75	72	1	No Gas	-1.862	ug/l	9188.10
As	75	72	3	He	-0.187	ug/l	208.53
Se	78	72	2	H2	0.022	ug/l	35.78
Br	79	72	1	No Gas	-0.077	ug/l	5919.50
Br	79	72	2	H2	-0.036	ug/l	3337.11
Se	82	72	1	No Gas	-0.496	ug/l	450.07
Kr	84	72	1	No Gas		ug/l	14328.78
Sr	88	72	1	No Gas	0.001	ug/l	242.86
Sr	88	72	3	He	-0.002	ug/l	51.11
Mo	95	115	1	No Gas	0.055	ug/l	248.89
Mo	95	115	3	He	0.046	ug/l	77.78
Mo	98	115	1	No Gas	0.055	ug/l	390.01
Ag	107	115	1	No Gas	0.011	ug/l	805.68
Ag	109	115	1	No Gas	0.006	ug/l	760.99
Cd	111	115	1	No Gas	0.004	ug/l	4.23

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	8.56
Cd	114	115	1	No Gas	0.004	ug/l	-26.96
Cd	114	115	3	He	0.001	ug/l	19.40
Sn	118	115	1	No Gas	0.016	ug/l	1720.04
Sn	118	115	3	He	0.008	ug/l	466.68
Sb	121	115	1	No Gas	0.045	ug/l	1146.83
Sb	121	115	3	He	0.026	ug/l	249.36
Sb	123	115	1	No Gas	0.045	ug/l	892.79
Sb	123	115	3	He	0.031	ug/l	203.02
Ba	135	115	1	No Gas	0.004	ug/l	23.29
Ba	137	115	1	No Gas	-0.002	ug/l	23.29
La	139	115	3	He	0.000	ug/l	5.56
Ce	140	115	3	He	-0.001	ug/l	8.89
Hg	201	209	1	No Gas	0.007	ug/l	27.99
Hg	202	209	1	No Gas	0.006	ug/l	70.99
Hg	202	209	3	He	0.005	ug/l	29.32
Tl	203	209	3	He	0.128	ug/l	1401.31
Tl	205	209	1	No Gas	0.099	ug/l	5365.58
Tl	205	209	3	He	0.121	ug/l	3391.80
[Pb]	206	209	1	No Gas	0.015	ug/l	2079.06
[Pb]	207	209	1	No Gas	-0.005	ug/l	1711.23
Pb	208	209	1	No Gas	0.007	ug/l	8104.35
Th	232	209	3	He	0.031	ug/l	1271.91
U	238	209	1	No Gas	0.003	ug/l	182.63

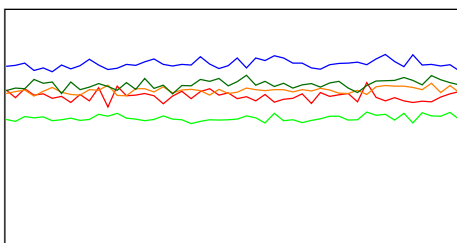
Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1907232.91	109.8
Sc	45	2	H2	1125082.74	108.9
Sc	45	3	He	115075.03	107.4
Ge	72	1	No Gas	537628.45	105.5
Ge	72	2	H2	408123.89	106.3
Ge	72	3	He	83059.57	107.2
In	115	1	No Gas	4063103.59	103.7
In	115	3	He	921898.40	105.5
Tb	159	1	No Gas	6235070.42	101.1
Tb	159	3	He	2578897.63	100.9
Ho	165	1	No Gas	6076253.38	99.4
Ho	165	3	He	2619368.23	100.4
Lu	175	1	No Gas	6252780.22	97.0
Lu	175	3	He	2215376.50	102.6
Bi	209	1	No Gas	4483996.58	96.7
Bi	209	3	He	2144685.18	100.3

Tune Report

Operator Name elim
Acq/Data Batch D:\Agilent\ICPMH1\DATA\220202A.b
Acq. Date-Time 2022-02-02 10:22:37
Report Comment ICPMS207-B JPV
Instrument Name G8403A JP17281923

[No Gas]

Sensitivity



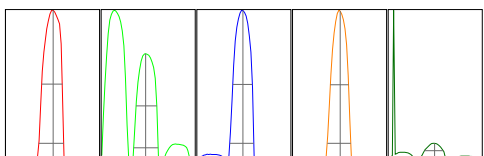
Mass	Range	Count	RSD%	Background
9	500000	318234	3.300	2.300
24	100000	54311	2.295	2.000
59	100000	77362	2.305	1.200
115	100000	66102	1.965	1.300
208	50000	34363	2.704	5.300

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

Oxide/Doubly Charged Ratio

Oxide 156 / 140 1.103 %
 Doubly Charged 70 / 140 0.741 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	319827.01	9.05	0.66	0.796
24	54595.57	23.95	0.66	0.775
59	75834.66	59.00	0.62	0.763
115	65659.21	115.05	0.58	0.750
208	34037.25	208.00	0.60	0.773

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	0.18 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	10.5 V	Deflect	14.6 V
Extract 2	-245.0 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 160 V

QP Parameters

Mass Gain 125 Axis Gain 0.9990 QP Bias -3.0 V
 Mass Offset 125 Axis Offset 0.10

Hardware Settings

Torch

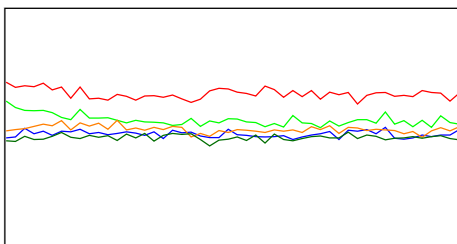
Torch H -0.9 mm Torch V 0.2 mm

EM

Discriminator 5.9 mV Analog HV 2289 V Pulse HV 1737 V

[H2]

Sensitivity



Mass	Range	Count	RSD%	Background
9	50000	32144	3.299	0.200
24	20000	10624	4.546	0.100
59	50000	23535	2.862	0.000
115	100000	49143	3.076	0.000
208	50000	22807	2.591	0.400

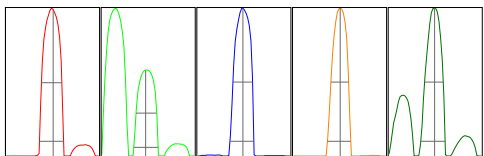
Sampling Period [sec] 0.514

Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide --
 Doubly Charged 70 / 140 0.647 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	31867.12	9.05	0.65	0.774
24	10219.03	23.95	0.66	0.773
59	23176.34	59.00	0.62	0.757
115	49000.08	115.05	0.56	0.740
208	22325.41	208.00	0.59	0.781

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	0.18 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	3.0 V
Extract 2	-220.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-85 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	0.9990	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.10		

Hardware Settings

Torch

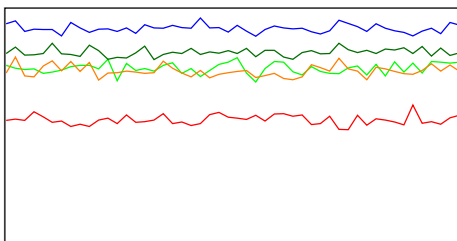
Torch H	-0.9 mm	Torch V	0.2 mm
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EM

Discriminator	5.9 mV	Analog HV	2289 V	Pulse HV	1737 V
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[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	5000	2653	3.902	1.500
24	2000	1500	3.085	0.500
59	20000	18384	1.874	0.200
115	20000	14771	3.193	0.800
208	20000	16359	2.048	0.900

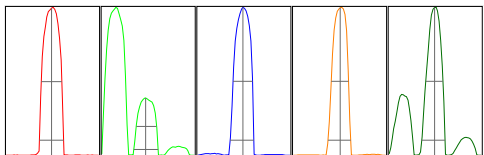
Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	--
Doubly Charged	70 / 140 0.705 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	2638.62	9.00	0.66	0.777
24	1500.55	23.95	0.65	0.770
59	18228.90	59.00	0.62	0.750
115	14777.29	115.05	0.55	0.721
208	16286.67	208.00	0.55	0.748

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	0.18 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	0.6 V
Extract 2	-220.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-80 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	190 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9990	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	-0.9 mm	Torch V	0.2 mm
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EM

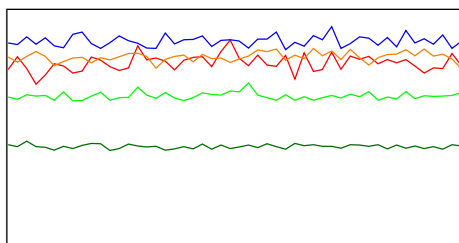
Discriminator	5.9 mV	Analog HV	2289 V	Pulse HV	1737 V
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Tune Report

Operator Name elim
Acq/Data Batch D:\Agilent\ICPMH1\DATA\220202A.b
Acq. Date-Time 2022-02-02 10:37:02
Report Comment ICPMS207-B JPV
Instrument Name G8403A JP17281923

[No Gas]

Sensitivity



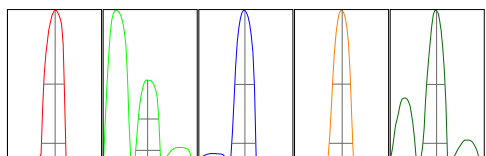
Mass	Range	Count	RSD%	Background
9	200000	155552	4.509	2.200
24	50000	31875	2.413	2.600
59	50000	43549	2.628	1.600
115	50000	40185	2.517	2.000
208	50000	21130	2.058	3.300

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

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.965 %
 Doubly Charged 70 / 140 0.678 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	159137.39	9.05	0.66	0.778
24	31889.94	23.95	0.65	0.774
59	43318.62	59.00	0.62	0.763
115	40176.10	115.05	0.57	0.748
208	21005.08	208.00	0.58	0.776

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	10.1 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 0.9990 QP Bias -3.0 V

Mass Offset 125 Axis Offset 0.10

Hardware Settings

Torch

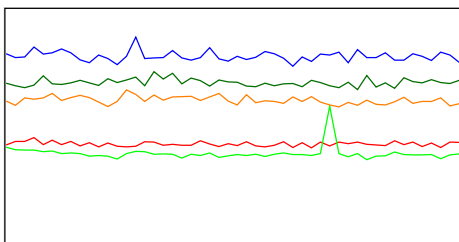
Torch H -0.9 mm Torch V 0.2 mm

EM

Discriminator 5.9 mV Analog HV 2289 V Pulse HV 1737 V

[H2]

Sensitivity



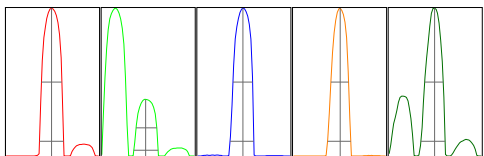
Mass	Range	Count	RSD%	Background
9	50000	21449	2.237	0.200
24	20000	7785	7.850	0.500
59	20000	16045	2.662	0.000
115	50000	30772	2.687	0.000
208	20000	13807	2.365	0.200

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

Oxide/Doubly Charged Ratio

Oxide --
Doubly Charged 70 / 140 0.723 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	21112.20	9.00	0.65	0.775
24	7600.59	23.95	0.66	0.771
59	15861.25	59.00	0.62	0.754
115	30522.60	115.05	0.56	0.736
208	13808.50	208.00	0.59	0.777

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	10.0 V	Deflect	2.0 V
Extract 2	-235.0 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	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	3.8 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9990	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.10		

Hardware Settings

Torch

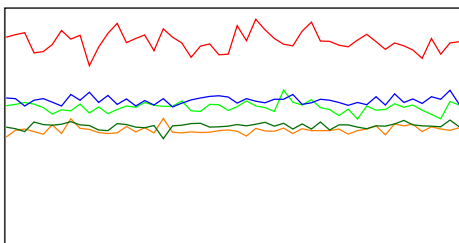
Torch H	-0.9 mm	Torch V	0.2 mm
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EM

Discriminator	5.9 mV	Analog HV	2289 V	Pulse HV	1737 V
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[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	2000	1728	4.775	1.800
24	2000	1168	3.698	0.500
59	20000	12273	2.686	0.400
115	20000	9751	3.268	0.200
208	20000	10100	2.599	0.800

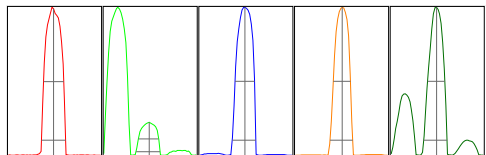
Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	--
Doubly Charged	70 / 140 0.759 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	1726.53	9.00	0.65	0.775
24	1169.24	24.00	0.65	0.767
59	12273.17	59.00	0.62	0.748
115	9982.67	115.05	0.55	0.719
208	10085.08	208.00	0.55	0.749

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	10.9 V	Deflect	1.2 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-85 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	0.9990	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	-0.9 mm	Torch V	0.2 mm
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EM

Discriminator	5.9 mV	Analog HV	2289 V	Pulse HV	1737 V
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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:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

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 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 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 ($\mu\text{g/mL}$)

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: ME211202 EL200.2MS
Standard Name: EL-200.2MS
Date Prepared: 12/2/2021
Date Expires: 12/2/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB685870
Balance ID:
Comments: Opened 8/11/2021; Expires 8/11/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Multi Analyte Custom Grade Solution	14398	500	mL	12/2/

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

Analyses

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-200.2MS	
Lot Number:	S2-MEB702960	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	Calcium, Potassium, Magnesium, Sodium,
	1 000 µg/mL ea:	Phosphorus,
Value / Analyte(s):	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,
Value / Analyte(s):	50 µg/mL ea:	Cadmium, Beryllium,
	10 µg/mL ea:	Silver

ID #: 14398

Opened: _____

Multi Analyte Custom Grade Solution
Expires: 3/8/2025
Rec'd: 10/18/2021

 Energv Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	499.9 ± 1.9 µg/mL	Arsenic, As	100.0 ± 0.8 µg/mL
Barium, Ba	100.0 ± 0.4 µg/mL	Beryllium, Be	50.01 ± 0.30 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	50.01 ± 0.22 µg/mL
Calcium, Ca	5 000 ± 20 µg/mL	Chromium, Cr	100.0 ± 0.7 µg/mL
Cobalt, Co	100.0 ± 0.5 µg/mL	Copper, Cu	100.0 ± 0.4 µg/mL
Iron, Fe	499.8 ± 2.1 µg/mL	Lead, Pb	100.0 ± 0.5 µg/mL
Lithium, Li	100.0 ± 0.4 µg/mL	Magnesium, Mg	5 000 ± 20 µg/mL
Manganese, Mn	500.1 ± 2.0 µg/mL	Nickel, Ni	100.0 ± 0.5 µg/mL
Phosphorus, P	1 000 ± 6 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Selenium, Se	100.0 ± 0.8 µg/mL	Silver, Ag	10.00 ± 0.05 µg/mL
Sodium, Na	5 000 ± 18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.7 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.1 ± 0.4 µg/mL		

Density: 1.097 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
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
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
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	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
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:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

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.

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, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 08, 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

- **March 08, 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: ME220117 AUDIGSPK

Standard Name: AUDIGSPK

Date Prepared: 1/17/2022

Date Expires: 10/25/2022

Department: ME

Vendor:

Lot Number:

Balance ID:

Comments:

Type: Secondary

BY: Amanda E. McDani

Status: Open

Final Volume: 50 mL

Stock Source

ME211202A U Stock

ME 211025 Th Sec Th Seondary 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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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: 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%

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

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.

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 < 0.002582	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 < 0.001344	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 < 0.004258	
M Cd < 0.001344	M Ir < 0.000224	M Pt < 0.000224	M Ti < 0.000224	
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 < 0.006564	
M Cr < 0.015465	M Li < 0.000448	M Rh < 0.000224	M U 0.001793	
M Cs < 0.013896	M Lu < 0.000224	M Ru < 0.000224	M V < 0.000224	
M Cu 0.001472	O Mg 0.027914	i S < 0.004931	M W < 0.000860	
M Dy 0.000197	M Mn 0.001814	M Sb < 0.000672	M Yb < 0.000224	
M Er < 0.002241	M Mo < 0.000896	M Sc < 0.000672		

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 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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Marktoberdorf
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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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91140, Villebon-sur-Yvette
Phone: +33 (0) 1 69 18 71 17
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: 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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91140, Villebon-sur-Yvette
Phone: +33 (0) 1 69 18 71 17
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: 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 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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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211202 EL200.2MS
Standard Name: EL-200.2MS
Date Prepared: 12/2/2021
Date Expires: 12/2/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB685870
Balance ID:
Comments: Opened 8/11/2021; Expires 8/11/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Multi Analyte Custom Grade Solution	14398	500	mL	12/2/

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

Analyses

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-200.2MS	
Lot Number:	S2-MEB702960	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	Potassium, Sodium,
	Calcium,	
	Magnesium,	
	1 000 µg/mL ea:	
	Phosphorus,	
	500 µg/mL ea:	Iron,
	Manganese,	
	Aluminum,	
	100 µg/mL ea:	Boron, Cobalt, Copper, Nickel, Selenium, Thallium, Zinc,
	Arsenic,	
Barium,		
Chromium,		
Lithium,		
Lead,		
Strontium,		
Vanadium,		
50 µg/mL ea:	Beryllium,	
Cadmium,		
10 µg/mL ea:		
Silver		

ID #: 14398

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 3/8/2025

Rec'd: 10/18/2021

 Energv Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	499.9 ± 1.9 µg/mL	Arsenic, As	100.0 ± 0.8 µg/mL
Barium, Ba	100.0 ± 0.4 µg/mL	Beryllium, Be	50.01 ± 0.30 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	50.01 ± 0.22 µg/mL
Calcium, Ca	5 000 ± 20 µg/mL	Chromium, Cr	100.0 ± 0.7 µg/mL
Cobalt, Co	100.0 ± 0.5 µg/mL	Copper, Cu	100.0 ± 0.4 µg/mL
Iron, Fe	499.8 ± 2.1 µg/mL	Lead, Pb	100.0 ± 0.5 µg/mL
Lithium, Li	100.0 ± 0.4 µg/mL	Magnesium, Mg	5 000 ± 20 µg/mL
Manganese, Mn	500.1 ± 2.0 µg/mL	Nickel, Ni	100.0 ± 0.5 µg/mL
Phosphorus, P	1 000 ± 6 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Selenium, Se	100.0 ± 0.8 µg/mL	Silver, Ag	10.00 ± 0.05 µg/mL
Sodium, Na	5 000 ± 18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.7 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.1 ± 0.4 µg/mL		

Density: 1.097 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
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
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
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	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
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:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

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.

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, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 08, 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

- **March 08, 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: ME220124 AUDIGSPK

Standard Name: AUDIGSPK

Date Prepared: 1/24/2022

Date Expires: 10/25/2022

Department: ME

Vendor:

Lot Number:

Balance ID:

Comments:

Type: Secondary

BY: Amanda E. McDani

Status: Open

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 (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 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 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
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

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%

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

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.

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 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.*

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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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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: 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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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.*

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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

Analyses

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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Marktberdorf
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Fax: +49 (0) 8342-89560-69

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.

ID #: 14023

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 9/14/2024

Rec'd: 7/7/2021

 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

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.

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: 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 $4^\circ - 30^\circ \text{C}$ 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 $4^\circ - 24^\circ \text{C}$ to minimize the effects of transpiration. Use at $20^\circ \pm 4^\circ \text{C}$ 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



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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 ^{SSN/2} < 0.004700	M Sn < 0.003300	
M B < 0.045000	M Ge < 0.003100	M Os ^{SSN/2} < 0.000240	M Sr < 0.001900	
M Ba < 0.001900	M Hf < 0.000240	O P < 0.130000	M Ta < 0.000240	
s Be < 0.003300	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 < 0.000940	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.

ID #: 14210

Opened: _____

Yttrium Single Analyte Custom Grade Solution

Expires: 1/25/2025

Rec'd: 8/27/2021

Eneray 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:
 $w_i = (1/u_{char i}^2) / (\sum(1/(u_{char i}^2)))$

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

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 <	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 <	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 <	M W < 0.006900	
M Dy < 0.000508	O Mn < 0.001400	M Sb < 0.000365	s Y <	
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 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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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

 Energy 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 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 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

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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 ($\mu\text{g/mL}$)

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 <	0.000500	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



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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 Ti⁴⁺ ion.); Oxide (The thalious oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in PtO 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

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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

<u>Stock Source</u>	<u>Base Units</u>	<u>Amount Added</u>
ME211208 MSCAL MSCAL 2B	ug/mL	0.5 mL
ME211118 MSCAL EL-MSCAL-5A	ug/mL	0.5 mL
ME211229A AU 2n Au 2nd source Stock	ug/mL	0.01 mL

<u>Analytes</u>	<u>CAS</u>	Conc:	<u>mg/L</u>
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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
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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: 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 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.*

CORPORATE HEADQUARTERS
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Baie D'Urfé (Montréal), Quebec,
H9X 4B6 Canada
Phone: +1 (800) 361-6820
Fax: +1 (800) 253-5549

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348 Route 11, Champlain,
N.Y. 12919-4816
Phone: +1 (800) 361-6820
Fax: +1 (800) 253-5549

FRANCE
12 Ave. de Québec, Bat. IRIS
91140, Villebon-sur-Yvette
Phone: +33 (0) 1 69 18 71 17
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: 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° \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:
Comments: Made with different HG stock than QCS

Type: Secondary
BY: Amanda E. McDani
Status: Open

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

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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
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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 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.*

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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) HNO ₃
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 SCIENCE

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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Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

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 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° ± 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 ($\mu\text{g/mL}$)

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

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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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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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
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: 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:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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.

- 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.*

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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: 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		*: Not tested

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.*

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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Alte Marktoberdorfer Straße 14, 87616
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%

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

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.

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

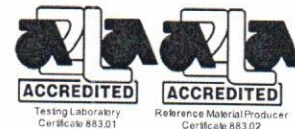
Analvtes

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:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

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.

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, $X_{\text{CRM/RM}}$, 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.

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

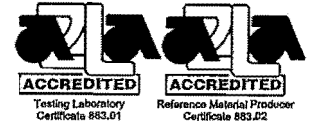
Analvtes

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) HNO ₃		
Value / Analyte(s):	5 000 µg/mL ea:	Calcium,	Potassium,
		Sodium,	Magnesium,
	1 000 µg/mL ea:	Phosphorus,	
	500 µg/mL ea:	Manganese,	Iron,
	100 µg/mL ea:	Arsenic,	Boron,
		Cobalt,	Chromium,
		Lithium,	Nickel,
		Selenium,	Strontium,
		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, $X_{CRM/RM}$, 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:

$$X_{CRM/RM} = (X_n) (u_{char a})$$

X_n = 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

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 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 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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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 (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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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: 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

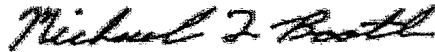
- Sealed TCT Bag Open Date: _____

- 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 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.*

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.*

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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: 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: 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

Spike LOG

Standard ID: ME220112 7900 INTERNAL STANDARD
 Standard Name: Internal Standards 2 mg/L
 Date Prepared: 1/12/2022
 Date Expires: 2/8/2022
 Department: ME
 Vendor:
 Lot Number:
 Balance ID:
 Comments:

Type: Secondary
 BY: Cindy Rohrer
 Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Hydrochloric Acid E1421	14721	10	mL	1/4/22
Nitric Acid 69.0- 70.0% D0521	14626	20	mL	12/14
Germanium Single Analyte Custom Gr	13636	2	mL	12/31
Holmium Single Analyte Custom Grad	13443	2	mL	2/12/22
Lutetium Single Analyte Atomic Absorp	13444	2	mL	3/1/22
Terbium Single Analyte Atomic Absorp	13445	2	mL	2/12/22
Indium Single Analyte Custom Grade	13654	2	mL	5/29/22
PlasmaCal Standard Bismuth	14230	2	mL	3/31/22
ICP/ICPMS Standard Scandium	13641	2	mL	8/31/22
ICP/ICPMS Standard Gold	14710	0.2	mL	12/29

Final Volume: 1000 mL

Stock Source

Base Units

Amount Added

Analtes

CAS

Conc: **mg/L**

Ge

1.0 DESCRIPTION: *PlasmaCAL ICP/ICPMS Standard - Germanium 1000 µg/ml*
 Catalogue Number: 140-050-320/-321/-325
 Starting Material: Ammonium Hexafluorogermanate(IV) 99.99+%
 Lot Number: **S201204009**
 Matrix: H₂O / tr. F⁻
 Expiration Date (End of month): **December 2022** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Certified Concentration: **1002 µg/ml +/- 3 µg/ml**
1002 µg/g +/- 3 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3120a Lot: **151115**

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 coverage factor (k) of 2 to provide a 95% confidence interval.

ID #: 13639

Opened: _____

ICP/ICPMS Standard Germanium

Expires: 12/31/2022

Rec'd: 3/16/2021

Energiv Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 REFERENCE VALUES:

Density: **1.000 g/ml @ 22.7 °C**

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	<0.0010	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	0.0097	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	N/A	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	<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	<0.0010	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	<0.0025	Si	*		
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 16, 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 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 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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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: +1 (800) 253-5549

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Alte Marktobderdorfer Straße 14, 87616
Marktobderdorf
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Fax: +49 (0) 8342-89560-69

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: CGHO1
 Lot Number: R2-HO691014
 Matrix: 5% (v/v) HNO3
 Value / Analyte(s): 1 000 µg/mL ea:
 Holmium
 Starting Material: Holmium Oxide
 Starting Material Lot#: 1890
 Starting Material Purity: 99.9947%

ID #: 13443
 Opened: _____
 Holmium Single Analyte Custom Grade Solution
Expires: 4/1/2024
 Rec'd: 1/7/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 3 µg/mL
Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	996 ± 6 µg/mL ICP Assay NIST SRM 3123a Lot Number: 090408
Assay Method #2	998 ± 3 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	1000 ± 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 (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 <	0.010000	M Eu	0.000377	M Na <	0.036000	M Se <	0.004400	M Zn <	0.071000
M Al <	0.020000	M Fe	0.002965	M Nb <	0.001200	i Si <		M Zr <	0.000400
M As <	0.011000	M Ga <	0.001600	M Nd	0.000183	M Sm	0.000700		
M Au <	0.006400	M Gd	0.000404	M Ni <	0.004800	M Sn <	0.002400		
M B <	0.091000	M Ge <	0.004000	M Os <	0.000400	M Sr <	0.002400		
M Ba <	0.002400	M Hf <	0.003200	i P <		i Ta <			
M Be <	0.003200	M Hg <	0.005600	M Pb <	0.057000	M Tb	0.000431		
M Bi <	0.005600	s Ho <		M Pd <	0.004400	M Te <	0.008000		
M Ca <	0.028000	M In <	0.001600	M Pr	0.000204	M Th <	0.001200		
M Cd <	0.000800	M Ir <	0.001600	M Pt <	0.000400	M Ti <	0.000800		
M Ce <	0.004800	O K	0.002965	M Rb <	0.002400	M Tl <	0.001600		
M Co <	0.001600	M La	0.000350	M Re <	0.000400	M Tm	0.000323		
M Cr <	0.005600	O Li <	0.001200	M Rh <	0.001600	M U <	0.000400		
M Cs	0.000485	M Lu	0.037737	M Ru <	0.000400	M V <	0.029000		
M Cu <	0.005600	O Mg <	0.003300	n S <		M W <	0.011000		
M Dy	0.009434	M Mn <	0.001200	M Sb <	0.002000	M Y	0.003504		
M Er	0.001671	M Mo <	0.011000	M Sc <	0.001200	M Yb	0.006199		

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 - 164.93 +3 6 to 9 or 10 for some compounds $\text{Ho}(\text{OH})_x(\text{H}_2\text{O})_{y+3-x}$

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.

Ho Containing Samples (Preparation and Solution) - Meta I (Soluble in acids); Oxide (Dissolved 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 165 amu	1 ppt	n/a	149 Sm 16O
ICP-OES 339.898 nm	0.02 / 0.002 µg/mL	1	Ce, Re
ICP-OES 345.600 nm	0.006 / 0.0001 µg/mL	1	U, Ti

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 01, 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 01, 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

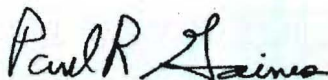
Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



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 Atomic Absorption Solution
Catalog Number: AALU1
Lot Number: R2-LU689867RAA
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Lutetium

ID #: 13444

Opened: _____

Lutetium Single Analyte Custom Grade Solution

Expires: 3/1/2024

Rec'd: 1/7/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107**3.0 CERTIFIED VALUES AND UNCERTAINTIES**

Certified Value: 1000 ± 10 µg/mL
Density: 1.011 g/mL (measured at 20 ± 4 °C)

4.0 TRACEABILITY TO NIST

The concentration of this solution standard has been verified by Inductively Coupled Plasma Spectroscopy (ICP) and is traceable to NIST SRM 3130a.

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 174.97 +3 6 to 9 or 10 for some compounds $\text{Lu}(\text{OH})_x(\text{H}_2\text{O})_{y+3-x}$

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.

Lu Containing Samples (Preparation and Solution) -Metal (Soluble in acids); Oxide (Dissolved by heating in H₂O/ HNO₃); Ores (Carbonate fusion in Pt0 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 175 amu	1 ppt	n/a	159 Tb16O
ICP-OES 261.542 nm	0.001 / 0.0003 µg/mL	1	Th, Mo, V, W
ICP-OES 291.139 nm	0.006 / 0.0006 µg/mL	1	Cr, 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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 01, 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

- **March 01, 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

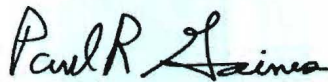
Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



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 Atomic Absorption Solution
Catalog Number: AATB1
Lot Number: R2-TB695079AA
Matrix: 5% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Terbium

ID #: 13445
Opened:
Terbium Single Analyte Atomic Absorption So
Expires: 8/19/2024
Rec'd: 1/7/2021
Enerav Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 10 µg/mL
Density: 1.026 g/mL (measured at 20 ± 4 °C)

4.0 TRACEABILITY TO NIST

The concentration of this solution standard has been verified by Inductively Coupled Plasma Spectroscopy (ICP) and is traceable to NIST SRM 3157a.

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 158.93 +3 6 to 9 or 10 for some compounds $Tb(OH)_x(H_2O)_y+3-x$

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.

Tb 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):

<u>Technique/Line</u>	<u>Estimated D.L.</u>	<u>Order</u>	<u>Interferences (underlined indicates severe)</u>
ICP-MS 159 amu	1 ppt	N/A	
ICP-OES 350.917 nm	0.02 / 0.002 µg/mL	1	V, Th, Ce, Zr
ICP-OES 367.635 nm	0.06 / 0.006 µg/mL	1	Ta, Ce, Co, 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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 19, 2020

- The certification is valid within the measurement uncertainty specified provided the CRMWRM 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 CRMWRM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 19, 2024**

- The date after which this CRMWRM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRMWRM can be supported by long term stability studies conducted on properly stored and handled CRMWRMs. 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 CRMWRM 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 CRMWRM 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



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:

$$w_i = (1/u_{char i}^2) / (\sum(1/(u_{char j}^2)))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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 SRMRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMRM 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 < 0.000670	M Eu < 0.000670	O Na < 0.000371	M Se < 0.007300	M Zn < 0.035000
O Al < 0.016000	O Fe < 0.000106	M Nb < 0.000670	O Si < 0.001486	M Zr < 0.000670
M As < 0.005400	M Ga < 0.000670	M Nd < 0.000670	M Sm < 0.000670	
M Au < 0.000670	M Gd < 0.000670	O Ni < 0.015000	M Sn < 0.001400	
O B < 0.000265	M Ge < 0.003400	M Os < 0.002000	O Sr < 0.000240	
O Ba < 0.001200	M Hf < 0.000670	n P < 0.000670	M Ta < 0.000670	
M Be < 0.000670	M Hg < 0.002000	M Pb < 0.000177	M Tb < 0.000670	
M Bi < 0.001400	M Ho < 0.000670	M Pd < 0.000670	M Te < 0.014000	
O Ca < 0.000548	s In < 0.000670	M Pr < 0.000670	M Th < 0.000670	
M Cd < 0.000670	M Ir < 0.000670	M Pt < 0.000670	O Tl < 0.002100	
M Ce < 0.000670	O K < 0.000247	M Rb < 0.000670	M Tl < 0.000670	
M Co < 0.001400	M La < 0.000670	M Re < 0.000670	M Tm < 0.000670	
O Cr < 0.002900	O Li < 0.000120	M Rh < 0.000670	M U < 0.000670	
M Cs < 0.001400	M Lu < 0.000670	M Ru < 0.000670	M V < 0.000670	
O Cu < 0.002400	O Mg < 0.000026	n S < 0.000670	M W < 0.000670	
M Dy < 0.000670	O Mn < 0.000720	M Sb < 0.002700	M Y < 0.000670	
M Er < 0.000670	M Mo < 0.001400	O Sc < 0.000600	M Yb < 0.000670	

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/WRM is negligible. After opening the sealed TCT bag transpiration of the CRM/WRM 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 - 114.82 +3 6 In(H₂O)₆+3

Chemical Compatibility -Soluble in HCl, HNO₃, and H₂SO₄. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

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.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO₃); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion 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 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/WRM.

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 29, 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

- **May 29, 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



Bi

1.0 DESCRIPTION: *PlasmaCAL ICP/ICPMS Standard - Bismuth 1000 µg/ml*
 Catalogue Number: 140-051-830/-831/-835
 Starting Material: Bismuth Metal 99.99+%
 Lot Number: **S210302013**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **March 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1002 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 3106 Lot: **180815**

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 @ 23.4 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

ID #: 14230
 Opened: _____
 PlasmaCal Standard Bismuth
Expires: 3/31/2023
 Rec'd: 9/1/2021
 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	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0042	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	N/A	In	<0.0010	Pt	<0.0010	Tl	<0.0055
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0120	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	<0.0010	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	<0.0010	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: March 04, 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 (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 présupposant 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
Phone: +33 (0) 1 69 18 71 17
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

Sc

1.0 DESCRIPTION: *PlasmaCAL ICP/ICPMS Standard - Scandium 1000 µg/ml*
 Catalogue Number: 140-051-210/-211/-215
 Starting Material: Scandium(III) Oxide 99.99+%
 Lot Number: **S200813011**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **August 2022** (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**
978 µg/g +/- 5 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3148a Lot: **100701**

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: **1.022 g/ml @ 22.5 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

ID #: 13641

Opened: _____

ICP/ICPMS Standard Scandium

Expires: 8/31/2022

Rec'd: 3/16/2021

Enerav 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	<0.0244	Fe	<0.0102	Nd	<0.0319	Sn	<0.1535
Al	<0.0280	Ga	<0.0260	Ni	<0.0139	Sr	<0.0004
As	<0.0105	Gd	<0.0137	Os	*	Ta	<0.0635
Au	<0.0085	Ge	<0.0548	P	<0.0104	Tb	<0.0146
B	<0.0507	Hf	<0.0339	Pb	<0.0492	Te	<0.4025
Ba	<0.0005	Hg	*	Pd	<0.0282	Th	<0.0471
Be	<0.0022	Ho	<0.0065	Pr	<0.1370	Ti	<0.0013
Bi	<0.0156	In	<0.0105	Pt	<0.2665	Tl	<0.5600
Ca	0.0742	Ir	<0.0243	Rb	*	Tm	<0.0105
Cd	<0.0048	K	<0.0128	Re	<0.0076	U	<0.2490
Ce	<0.0393	La	<0.0173	Rh	<0.0163	V	<0.0049
Co	<0.0224	Li	<0.0028	Ru	<0.0304	W	<0.0443
Cr	<0.0063	Lu	<0.0021	S	<0.0515	Y	<0.0033
Cs	*	Mg	<0.0009	Sb	<0.0197	Yb	<0.0057
Cu	<0.0200	Mn	<0.0089	Sc	N/A	Zn	<0.0045
Dy	<0.0214	Mo	<0.0229	Se	<0.1245	Zr	0.1015
Er	<0.0349	Na	<0.0191	Si	<0.0091		
Eu	<0.0017	Nb	<0.0112	Sm	<0.1105		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Daniel Boisvert, Chemist
 Certification Date: August 20, 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 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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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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Fax: +49 (0) 8342-89560-69

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 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 meghom/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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