PREP BATCH REPORT

Prep Code: **PRP-3010** Technician: **Amanda E. McDaniels** Prep Start Date: **1/14/2022 8:11:56 AM**

Prep Batch **162926** Prep Temp: **92 °C** Batch Units: **ML** Prep End Date: **1/14/2022 4:20:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recovered	Final Vol (mL)	Factor	Balance	Prep Start Date	Prep End Date
MB-162926 Temp cell C6			50	0	0	50	1		1/14/2022	1/14/2022
LCS4-162926			50	0	0	50	1		1/14/2022	1/14/2022
B22010507-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010507-001BMS4			50	0	0	50	1		1/14/2022	1/14/2022
B22010507-001BMSD4			50	0	0	50	1		1/14/2022	1/14/2022
B22010625-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010626-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010628-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010629-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010633-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010637-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010641-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010643-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010750-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010751-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010751-001BMS4			50	0	0	50	1		1/14/2022	1/14/2022
B22010751-001BMSD4			50	0	0	50	1		1/14/2022	1/14/2022
B22010753-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010754-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010755-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010756-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010757-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010758-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022
B22010759-001B	Ground Water		50	0	0	50	1		1/14/2022	1/14/2022

Number	Reagent Name	Exp Date	A
14614	50mL DigiTubes J526127-2104	12/10/2022	
14626	Nitric Acid 69.0- 70.0% D0521	12/14/2026	6 mL
14721	Hydrochloric Acid E1421	1/4/2027	1 mL

Spk ID	Spike Name	SampType	AmtAdd	Exp Date
ME211124 EL-M	EL-MSICV-2	LCS4/MS4	0.05 ml	11/24/2022
ME211202 EL200	EL-200.2MS	LCS4/MS4	0.05 mL	12/2/2022
ME220106 AUDI	AUDIGSPK	LCS4/MS4	0.05 ml	10/25/2022

Energy Laboratories Inc

ANALYTICAL RUN Summary

25-Jan-22

Run ID ICPMS207-B_220114A

Run Start Date: 1/14/2022 11:54:19
Analyst: Cindy Rohrer
Ical: 0
Column ID:
Comments:

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

Std ID	Std Name	Std Amount	Std Units	Samp Amount	Samp Units	SampType	Expiration Date
ME210901 ICSA	ICSA					ICSA	9/1/2022
ME210901 ICSAB	ICSAB					ICSAB	9/1/2022
ME211206 ICV STANDARD	ICV for ICPMS Standards					ICV	4/30/2022
ME220112 0.025 PPB STAND	0.025 ppb Standard						11/18/2022
ME220112 0.05 PPB STANDA	0.5 ppb Standard						11/18/2022
ME220112 0.1 PPB STANDAR	0.1 ppb Standard						11/18/2022
ME220112 0.5 PPB STANDAR	0.5 ppb Standard						11/18/2022
ME220112 1 PPB STANDARD	1 ppb Standard						11/18/2022
ME220112 10 PPB STANDAR	10 ppb Standard					CCV	11/18/2022
ME220112 100 PPB STANDAR	100 ppb Standard					CAL8	11/18/2022
ME220112 50 PPB STANDAR	50 ppb Standard/CCV					CRI	11/18/2022
ME220112 7900 INTERNAL ST	Internal Standards 2 mg/L						2/8/2022
ME220112 SS1	SS1 ICPMS Spiking Solution					LFB/MS	12/8/2022
ME220112A 1000 PPB STAND	1000 PPB Standard					URL	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
14980119	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 11:54:	1	R373222		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
14980120	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 12:00:	1	R373222		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
14980121	Cal Blk	ICPMS-6020-W-	SAMP		1/14/2022 12:06:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
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%	
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%	
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%	
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%	
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%	
Vanadium	B	mg/L	0	0		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980122	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/14/2022 12:13:	1	R373222		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
14980122	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/14/2022 12:13:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001736	0.0001736		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00004448	0.00004448		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00004949	0.00004949		0.000025	0	0		0.001		198%	80	120	0%	S
Barium	A	mg/L	0.00002011	0.00002011		0.000025	0	0		0.0003		80%	80	120	0%	
Beryllium	A	mg/L	0.00002292	0.00002292		0.000025	0	0		0.001		92%	80	120	0%	
Boron	A	mg/L	-0.000131	-0.000131		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00001366	0.00001366		0.000025	0	0		0.001		55%	80	120	0%	S
Calcium	A	mg/L	0.009883	0.009883		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00001826	0.00001826		0.000025	0	0		0.001		73%	80	120	0%	S
Chromium	A	mg/L	-0.00004869	-0.00004869		0.000025	0	0		0.001		-195%	80	120	0%	S
Cobalt	A	mg/L	0.00002579	0.00002579		0.000025	0	0		0.001		103%	80	120	0%	
Copper	A	mg/L	0.000067	0.000067		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0009422	0.0009422		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.04836	0.04836		0.000025	0	0		0.001		193440%	80	120	0%	S
Lithium	A	mg/L	0.0001037	0.0001037		0.0003125	0	0		1		33%	80	120	0%	S
Magnesium	A	mg/L	0.007237	0.007237		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00003175	0.00003175		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	-2.151E-07	-2.151E-07		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00003855	0.00003855		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00009926	0.00009926		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.003925	0.003925		0.00625	0	0		1		63%	80	120	0%	S
Selenium	A	mg/L	0.00002901	0.00002901		0.000025	0	0		0.005		116%	80	120	0%	
Silicon	A	mg/L	-0.0004381	-0.0004381		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00001537	0.00001537		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.007403	0.007403		0.00625	0	0		1		118%	80	120	0%	
Strontium	A	mg/L	0.00002006	0.00002006		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	0.00002729	0.00002729		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00001609	0.00001609		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0001636	0.0001636		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.0000132	0.0000132		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00002762	0.00002762		0.000025	0	0		0.001		110%	80	120	0%	
Vanadium	A	mg/L	0.0003724	0.0003724		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0007441	0.0007441		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0009422	0.0009422		0.000025	0	0		0.01	5	3769%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.00093753	-0.00093753		0.0000535	0	0		0.214	0.9	-1752%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980123	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/14/2022 12:20:	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00006465	0.00006465		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00005127	0.00005127		0.00005	0	0		0.001		103%	80	120	0%	
Arsenic	A	mg/L	0.0001004	0.0001004		0.00005	0	0		0.001		201%	80	120	0%	S
Barium	A	mg/L	0.00004141	0.00004141		0.00005	0	0		0.0003		83%	80	120	0%	
Beryllium	A	mg/L	0.00004468	0.00004468		0.00005	0	0		0.001		89%	80	120	0%	
Boron	A	mg/L	-0.0001318	-0.0001318		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00004502	0.00004502		0.00005	0	0		0.001		90%	80	120	0%	
Calcium	A	mg/L	0.01355	0.01355		0.0125	0	0		1		108%	80	120	0%	
Cerium	A	mg/L	-5.933E-07	-5.933E-07		0.00005	0	0		0.001		-1%	80	120	0%	S
Chromium	A	mg/L	-0.00001316	-0.00001316		0.00005	0	0		0.001		-26%	80	120	0%	S
Cobalt	A	mg/L	0.00005119	0.00005119		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00005355	0.00005355		0.00005	0	0		0.005		107%	80	120	0%	
Iron	A	mg/L	0.001407	0.001407		0.00125	0	0		0.01		113%	80	120	0%	
Lanthanum	A	mg/L	-0.002392	-0.002392		0.00005	0	0		0.001		-4784%	80	120	0%	S
Lead	A	mg/L	0.00004085	0.00004085		0.00005	0	0		0.001		82%	80	120	0%	
Lithium	A	mg/L	0.0003697	0.0003697		0.000625	0	0		1		59%	80	120	0%	S
Magnesium	A	mg/L	0.01475	0.01475		0.0125	0	0		1		118%	80	120	0%	
Manganese	A	mg/L	0.0000558	0.0000558		0.00005	0	0		0.001		112%	80	120	0%	
Mercury	A	mg/L	0.00002429	0.00002429		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0000529	0.0000529		0.00005	0	0		0.001		106%	80	120	0%	
Nickel	A	mg/L	0.00007069	0.00007069		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.01296	0.01296		0.0125	0	0		1		104%	80	120	0%	
Selenium	A	mg/L	0.0000532	0.0000532		0.00005	0	0		0.005		106%	80	120	0%	
Silicon	A	mg/L	-0.001918	-0.001918		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00001975	0.00001975		0.00002	0	0		0.001		99%	80	120	0%	
Sodium	A	mg/L	0.0136	0.0136		0.0125	0	0		1		109%	80	120	0%	
Strontium	A	mg/L	0.00006495	0.00006495		0.00005	0	0		0.001		130%	80	120	0%	S
Thallium	A	mg/L	0.00005929	0.00005929		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00003058	0.00003058		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0002651	0.0002651		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00001163	0.00001163		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00004981	0.00004981		0.00005	0	0		0.001		100%	80	120	0%	
Vanadium	A	mg/L	0.0005032	0.0005032		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001326	0.0001326		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001407	0.001407		0.00005	0	0		0.01	5	2814%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980123	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/14/2022 12:20:	1	R373222		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	-0.00410452	-0.00410452		0.00428	0	0		0.214	0.9	-96%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980124	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/14/2022 12:26:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00009874	0.00009874		0.0001	0	0		0.01		99%	80	120	0%	
Antimony	A	mg/L	0.0001032	0.0001032		0.0001	0	0		0.001		103%	80	120	0%	
Arsenic	A	mg/L	0.000149	0.000149		0.0001	0	0		0.001		149%	80	120	0%	S
Barium	A	mg/L	0.0000987	0.0000987		0.0001	0	0		0.0003		99%	80	120	0%	
Beryllium	A	mg/L	0.0001598	0.0001598		0.0001	0	0		0.001		160%	80	120	0%	S
Boron	A	mg/L	-0.0001575	-0.0001575		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.000105	0.000105		0.0001	0	0		0.001		105%	80	120	0%	
Calcium	A	mg/L	0.02857	0.02857		0.025	0	0		1		114%	80	120	0%	
Cerium	A	mg/L	0.000001744	0.000001744		0.0001	0	0		0.001		2%	80	120	0%	S
Chromium	A	mg/L	0.00007895	0.00007895		0.0001	0	0		0.001		79%	80	120	0%	S
Cobalt	A	mg/L	0.0001026	0.0001026		0.0001	0	0		0.001		103%	80	120	0%	
Copper	A	mg/L	0.000121	0.000121		0.0001	0	0		0.005		121%	80	120	0%	S
Iron	A	mg/L	0.002952	0.002952		0.0025	0	0		0.01		118%	80	120	0%	
Lanthanum	A	mg/L	0.0002431	0.0002431		0.0001	0	0		0.001		243%	80	120	0%	S
Lead	A	mg/L	0.0001094	0.0001094		0.0001	0	0		0.001		109%	80	120	0%	
Lithium	A	mg/L	0.0009968	0.0009968		0.00125	0	0		1		80%	80	120	0%	
Magnesium	A	mg/L	0.02948	0.02948		0.025	0	0		1		118%	80	120	0%	
Manganese	A	mg/L	0.00009911	0.00009911		0.0001	0	0		0.001		99%	80	120	0%	
Mercury	A	mg/L	0.00001448	0.00001448		0.000002	0	0		0.001		724%	80	120	0%	S
Molybdenum	A	mg/L	0.0001082	0.0001082		0.0001	0	0		0.001		108%	80	120	0%	
Nickel	A	mg/L	0.000124	0.000124		0.0001	0	0		0.005		124%	80	120	0%	S
Potassium	A	mg/L	0.02545	0.02545		0.025	0	0		1		102%	80	120	0%	
Selenium	A	mg/L	0.00009842	0.00009842		0.0001	0	0		0.005		98%	80	120	0%	
Silicon	A	mg/L	-0.00296	-0.00296		0.0004	0	0		0.1		-740%	80	120	0%	S
Silver	A	mg/L	0.00005173	0.00005173		0.00004	0	0		0.001		129%	80	120	0%	S
Sodium	A	mg/L	0.02833	0.02833		0.025	0	0		1		113%	80	120	0%	
Strontium	A	mg/L	0.0001153	0.0001153		0.0001	0	0		0.001		115%	80	120	0%	
Thallium	A	mg/L	0.0001079	0.0001079		0.0001	0	0		0.001		108%	80	120	0%	
Thorium	A	mg/L	0.00007359	0.00007359		0.0001	0	0		0.05		74%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980124	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/14/2022 12:26:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.0003166	0.0003166		0.0001	0	0		0.001		317%	80	120	0%	S
Titanium	A	mg/L	0.00004445	0.00004445		0.0001	0	0		0.001		44%	80	120	0%	S
Uranium	A	mg/L	0.0001092	0.0001092		0.0001	0	0		0.001		109%	80	120	0%	
Vanadium	A	mg/L	0.0005285	0.0005285		0.0001	0	0		0.005		529%	80	120	0%	S
Zinc	A	mg/L	0.0001516	0.0001516		0.0001	0	0		0.01		152%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.002952	0.002952		0.0001	0	0		0.01	5	2952%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0063344	-0.0063344		0.00856	0	0		0.214	0.9	-74%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980125	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/14/2022 12:33:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000554	0.000554		0.0005	0	0		0.01		111%	80	120	0%	
Antimony	A	mg/L	0.0005032	0.0005032		0.0005	0	0		0.001		101%	80	120	0%	
Arsenic	A	mg/L	0.0006124	0.0006124		0.0005	0	0		0.001		122%	80	120	0%	S
Barium	A	mg/L	0.0005171	0.0005171		0.0005	0	0		0.0003		103%	80	120	0%	
Beryllium	A	mg/L	0.0005231	0.0005231		0.0005	0	0		0.001		105%	80	120	0%	
Boron	A	mg/L	0.0001826	0.0001826		0.0005	0	0		0.1		37%	80	120	0%	S
Cadmium	A	mg/L	0.0005346	0.0005346		0.0005	0	0		0.001		107%	80	120	0%	
Calcium	A	mg/L	0.1328	0.1328		0.125	0	0		1		106%	80	120	0%	
Cerium	A	mg/L	0.00001341	0.00001341		0.0005	0	0		0.001		3%	80	120	0%	S
Chromium	A	mg/L	0.0005394	0.0005394		0.0005	0	0		0.001		108%	80	120	0%	
Cobalt	A	mg/L	0.0005832	0.0005832		0.0005	0	0		0.001		117%	80	120	0%	
Copper	A	mg/L	0.0006159	0.0006159		0.0005	0	0		0.005		123%	80	120	0%	S
Iron	A	mg/L	0.01405	0.01405		0.0125	0	0		0.01		112%	80	120	0%	
Lanthanum	A	mg/L	0.00275	0.00275		0.0005	0	0		0.001		550%	80	120	0%	S
Lead	A	mg/L	0.0005427	0.0005427		0.0005	0	0		0.001		109%	80	120	0%	
Lithium	A	mg/L	0.006487	0.006487		0.00625	0	0		1		104%	80	120	0%	
Magnesium	A	mg/L	0.1457	0.1457		0.125	0	0		1		117%	80	120	0%	
Manganese	A	mg/L	0.0005638	0.0005638		0.0005	0	0		0.001		113%	80	120	0%	
Mercury	A	mg/L	-4.133E-06	-4.133E-06		0.00001	0	0		0.001		-41%	80	120	0%	S
Molybdenum	A	mg/L	0.0004961	0.0004961		0.0005	0	0		0.001		99%	80	120	0%	
Nickel	A	mg/L	0.0005709	0.0005709		0.0005	0	0		0.005		114%	80	120	0%	
Potassium	A	mg/L	0.1312	0.1312		0.125	0	0		1		105%	80	120	0%	
Selenium	A	mg/L	0.0005156	0.0005156		0.0005	0	0		0.005		103%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980125	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/14/2022 12:33:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	-0.002597	-0.002597		0.002	0	0		0.1		-130%	80	120	0%	S
Silver	A	mg/L	0.0002144	0.0002144		0.0002	0	0		0.001		107%	80	120	0%	
Sodium	A	mg/L	0.1402	0.1402		0.125	0	0		1		112%	80	120	0%	
Strontium	A	mg/L	0.0005443	0.0005443		0.0005	0	0		0.001		109%	80	120	0%	
Thallium	A	mg/L	0.0005381	0.0005381		0.0005	0	0		0.001		108%	80	120	0%	
Thorium	A	mg/L	0.0004503	0.0004503		0.0005	0	0		0.05		90%	80	120	0%	
Tin	A	mg/L	0.0007415	0.0007415		0.0005	0	0		0.001		148%	80	120	0%	S
Titanium	A	mg/L	0.0006293	0.0006293		0.0005	0	0		0.001		126%	80	120	0%	S
Uranium	A	mg/L	0.0005039	0.0005039		0.0005	0	0		0.001		101%	80	120	0%	
Vanadium	A	mg/L	0.0011	0.0011		0.0005	0	0		0.005		220%	80	120	0%	S
Zinc	A	mg/L	0.0008051	0.0008051		0.0005	0	0		0.01		161%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.01405	0.01405		0.0005	0	0		0.01	5	2810%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.00555758	-0.00555758		0.0428	0	0		0.214	0.9	-13%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980126	1 ppb STD	ICPMS-6020B-C	Cal5		1/14/2022 12:40:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001142	0.001142		0.001	0	0		0.01		114%	80	120	0%	
Antimony	A	mg/L	0.001038	0.001038		0.001	0	0		0.001		104%	80	120	0%	
Arsenic	A	mg/L	0.001225	0.001225		0.001	0	0		0.001		123%	80	120	0%	S
Barium	A	mg/L	0.001075	0.001075		0.001	0	0		0.0003		107%	80	120	0%	
Beryllium	A	mg/L	0.001086	0.001086		0.001	0	0		0.001		109%	80	120	0%	
Boron	A	mg/L	0.0007521	0.0007521		0.001	0	0		0.1		75%	80	120	0%	S
Cadmium	A	mg/L	0.001049	0.001049		0.001	0	0		0.001		105%	80	120	0%	
Calcium	A	mg/L	0.2847	0.2847		0.25	0	0		1		114%	80	120	0%	
Cerium	A	mg/L	0.00001886	0.00001886		0.001	0	0		0.001		2%	80	120	0%	S
Chromium	A	mg/L	0.001159	0.001159		0.001	0	0		0.001		116%	80	120	0%	
Cobalt	A	mg/L	0.001192	0.001192		0.001	0	0		0.001		119%	80	120	0%	
Copper	A	mg/L	0.001281	0.001281		0.001	0	0		0.005		128%	80	120	0%	S
Iron	A	mg/L	0.03026	0.03026		0.025	0	0		0.01		121%	80	120	0%	S
Lanthanum	A	mg/L	0.04833	0.04833		0.001	0	0		0.001		4833%	80	120	0%	S
Lead	A	mg/L	0.001106	0.001106		0.001	0	0		0.001		111%	80	120	0%	
Lithium	A	mg/L	0.01391	0.01391		0.0125	0	0		1		111%	80	120	0%	
Magnesium	A	mg/L	0.2915	0.2915		0.25	0	0		1		117%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980126	1 ppb STD	ICPMS-6020B-C	Cal5		1/14/2022 12:40:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.00116	0.00116		0.001	0	0		0.001		116%	80	120	0%	
Mercury	A	mg/L	0.00001417	0.00001417		0.00002	0	0		0.001		71%	80	120	0%	S
Molybdenum	A	mg/L	0.001058	0.001058		0.001	0	0		0.001		106%	80	120	0%	
Nickel	A	mg/L	0.001242	0.001242		0.001	0	0		0.005		124%	80	120	0%	S
Potassium	A	mg/L	0.28	0.28		0.25	0	0		1		112%	80	120	0%	
Selenium	A	mg/L	0.001142	0.001142		0.001	0	0		0.005		114%	80	120	0%	
Silicon	A	mg/L	-0.00001658	-0.00001658		0.004	0	0		0.1		0%	80	120	0%	S
Silver	A	mg/L	0.000426	0.000426		0.0004	0	0		0.001		107%	80	120	0%	
Sodium	A	mg/L	0.292	0.292		0.25	0	0		1		117%	80	120	0%	
Strontium	A	mg/L	0.001155	0.001155		0.001	0	0		0.001		116%	80	120	0%	
Thallium	A	mg/L	0.001119	0.001119		0.001	0	0		0.001		112%	80	120	0%	
Thorium	A	mg/L	0.0009623	0.0009623		0.001	0	0		0.05		96%	80	120	0%	
Tin	A	mg/L	0.001375	0.001375		0.001	0	0		0.001		138%	80	120	0%	S
Titanium	A	mg/L	0.001101	0.001101		0.001	0	0		0.001		110%	80	120	0%	
Uranium	A	mg/L	0.001057	0.001057		0.001	0	0		0.001		106%	80	120	0%	
Vanadium	A	mg/L	0.002004	0.002004		0.001	0	0		0.005		200%	80	120	0%	S
Zinc	A	mg/L	0.00143	0.00143		0.001	0	0		0.01		143%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.03026	0.03026		0.001	0	0		0.01	5	3026%	80	120	0%	S
Silicon as SiO2	C	mg/L	-3.5481E-05	-3.5481E-05		0.0856	0	0		0.214	0.9	0%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980127	10 ppb STD	ICPMS-6020B-C	Cal6		1/14/2022 12:46:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.01101	0.01101		0.01	0	0		0.01		110%	90	110	0%	
Antimony	A	mg/L	0.0103	0.0103		0.01	0	0		0.001		103%	90	110	0%	
Arsenic	A	mg/L	0.0112	0.0112		0.01	0	0		0.001		112%	90	110	0%	S
Barium	A	mg/L	0.01077	0.01077		0.01	0	0		0.0003		108%	90	110	0%	
Beryllium	A	mg/L	0.01093	0.01093		0.01	0	0		0.001		109%	90	110	0%	
Boron	A	mg/L	0.01071	0.01071		0.01	0	0		0.1		107%	90	110	0%	
Cadmium	A	mg/L	0.01057	0.01057		0.01	0	0		0.001		106%	90	110	0%	
Calcium	A	mg/L	2.661	2.661		2.5	0	0		1		106%	90	110	0%	
Cerium	A	mg/L	0.00001942	0.00001942		0.01	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.0113	0.0113		0.01	0	0		0.001		113%	90	110	0%	S
Cobalt	A	mg/L	0.01127	0.01127		0.01	0	0		0.001		113%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980127	10 ppb STD	ICPMS-6020B-C	Cal6		1/14/2022 12:46:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.01211	0.01211		0.01	0	0		0.005		121%	90	110	0%	S
Iron	A	mg/L	0.2857	0.2857		0.25	0	0		0.01		114%	90	110	0%	S
Lanthanum	A	mg/L	0.03419	0.03419		0.01	0	0		0.001		342%	90	110	0%	S
Lead	A	mg/L	0.01082	0.01082		0.01	0	0		0.001		108%	90	110	0%	
Lithium	A	mg/L	0.1404	0.1404		0.125	0	0		1		112%	90	110	0%	S
Magnesium	A	mg/L	2.804	2.804		2.5	0	0		1		112%	90	110	0%	S
Manganese	A	mg/L	0.01136	0.01136		0.01	0	0		0.001		114%	90	110	0%	S
Mercury	A	mg/L	0.000001949	0.000001949		0.0002	0	0		0.001		1%	90	110	0%	S
Molybdenum	A	mg/L	0.01036	0.01036		0.01	0	0		0.001		104%	90	110	0%	
Nickel	A	mg/L	0.01188	0.01188		0.01	0	0		0.005		119%	90	110	0%	S
Potassium	A	mg/L	2.723	2.723		2.5	0	0		1		109%	90	110	0%	
Selenium	A	mg/L	0.01095	0.01095		0.01	0	0		0.005		109%	90	110	0%	
Silicon	A	mg/L	0.03667	0.03667		0.04	0	0		0.1		92%	90	110	0%	
Silver	A	mg/L	0.004258	0.004258		0.004	0	0		0.001		106%	90	110	0%	
Sodium	A	mg/L	2.826	2.826		2.5	0	0		1		113%	90	110	0%	S
Strontium	A	mg/L	0.01117	0.01117		0.01	0	0		0.001		112%	90	110	0%	S
Thallium	A	mg/L	0.0107	0.0107		0.01	0	0		0.001		107%	90	110	0%	
Thorium	A	mg/L	0.01021	0.01021		0.01	0	0		0.05		102%	90	110	0%	
Tin	A	mg/L	0.01119	0.01119		0.01	0	0		0.001		112%	90	110	0%	S
Titanium	A	mg/L	0.01095	0.01095		0.01	0	0		0.001		109%	90	110	0%	
Uranium	A	mg/L	0.01037	0.01037		0.01	0	0		0.001		104%	90	110	0%	
Vanadium	A	mg/L	0.01248	0.01248		0.01	0	0		0.005		125%	90	110	0%	S
Zinc	A	mg/L	0.01238	0.01238		0.01	0	0		0.01		124%	90	110	0%	S
Iron, Ferrous	C	mg/L	0.2857	0.2857		0.01	0	0		0.01	5	2857%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.0784738	0.0784738		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
14980128	50 ppb STD	ICPMS-6020B-C	Cal7		1/14/2022 12:53:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05198	0.05198		0.05	0	0		0.01		104%	90	110	0%	
Antimony	A	mg/L	0.05103	0.05103		0.05	0	0		0.001		102%	90	110	0%	
Arsenic	A	mg/L	0.05292	0.05292		0.05	0	0		0.001		106%	90	110	0%	
Barium	A	mg/L	0.05223	0.05223		0.05	0	0		0.0003		104%	90	110	0%	
Beryllium	A	mg/L	0.0519	0.0519		0.05	0	0		0.001		104%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980128	50 ppb STD	ICPMS-6020B-C	Cal7		1/14/2022 12:53:	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.05227	0.05227		0.05	0	0		0.1		105%	90	110	0%	
Cadmium	A	mg/L	0.05154	0.05154		0.05	0	0		0.001		103%	90	110	0%	
Calcium	A	mg/L	12.35	12.35		12.5	0	0		1		99%	90	110	0%	
Cerium	A	mg/L	0.252	0.252		0.05	0	0		0.001		504%	90	110	0%	S
Chromium	A	mg/L	0.05324	0.05324		0.05	0	0		0.001		106%	90	110	0%	
Cobalt	A	mg/L	0.05339	0.05339		0.05	0	0		0.001		107%	90	110	0%	
Copper	A	mg/L	0.05543	0.05543		0.05	0	0		0.005		111%	90	110	0%	S
Iron	A	mg/L	1.311	1.311		1.25	0	0		0.01		105%	90	110	0%	
Lanthanum	A	mg/L	0.04587	0.04587		0.05	0	0		0.001		92%	90	110	0%	
Lead	A	mg/L	0.05234	0.05234		0.05	0	0		0.001		105%	90	110	0%	
Lithium	A	mg/L	0.6339	0.6339		0.625	0	0		1		101%	90	110	0%	
Magnesium	A	mg/L	12.62	12.62		12.5	0	0		1		101%	90	110	0%	
Manganese	A	mg/L	0.05354	0.05354		0.05	0	0		0.001		107%	90	110	0%	
Mercury	A	mg/L	0.004984	0.004984		0.001	0	0		0.001		498%	90	110	0%	S
Molybdenum	A	mg/L	0.05154	0.05154		0.05	0	0		0.001		103%	90	110	0%	
Nickel	A	mg/L	0.05501	0.05501		0.05	0	0		0.005		110%	90	110	0%	
Potassium	A	mg/L	12.54	12.54		12.5	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.05259	0.05259		0.05	0	0		0.005		105%	90	110	0%	
Silicon	A	mg/L	0.2078	0.2078		0.2	0	0		0.1		104%	90	110	0%	
Silver	A	mg/L	0.02047	0.02047		0.02	0	0		0.001		102%	90	110	0%	
Sodium	A	mg/L	12.78	12.78		12.5	0	0		1		102%	90	110	0%	
Strontium	A	mg/L	0.05331	0.05331		0.05	0	0		0.001		107%	90	110	0%	
Thallium	A	mg/L	0.05029	0.05029		0.05	0	0		0.001		101%	90	110	0%	
Thorium	A	mg/L	0.04968	0.04968		0.05	0	0		0.05		99%	90	110	0%	
Tin	A	mg/L	0.05332	0.05332		0.05	0	0		0.001		107%	90	110	0%	
Titanium	A	mg/L	0.05229	0.05229		0.05	0	0		0.001		105%	90	110	0%	
Uranium	A	mg/L	0.05031	0.05031		0.05	0	0		0.001		101%	90	110	0%	
Vanadium	A	mg/L	0.05279	0.05279		0.05	0	0		0.005		106%	90	110	0%	
Zinc	A	mg/L	0.0541	0.0541		0.05	0	0		0.01		108%	90	110	0%	
Iron, Ferrous	C	mg/L	1.311	1.311		0.05	0	0		0.01	5	2622%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.444692	0.444692		4.28	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980129	100 ppb STD	ICPMS-6020B-C	Cal8		1/14/2022 12:59:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09667	0.09667		0.1	0	0		0.01		97%	90	110	0%	
Antimony	A	mg/L	0.09945	0.09945		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.101	0.101		0.1	0	0		0.001		101%	90	110	0%	
Barium	A	mg/L	0.1027	0.1027		0.1	0	0		0.0003		103%	90	110	0%	
Beryllium	A	mg/L	0.0992	0.0992		0.1	0	0		0.001		99%	90	110	0%	
Boron	A	mg/L	0.09886	0.09886		0.1	0	0		0.1		99%	90	110	0%	
Cadmium	A	mg/L	0.1012	0.1012		0.1	0	0		0.001		101%	90	110	0%	
Calcium	A	mg/L	23.62	23.62		25	0	0		1		94%	90	110	0%	
Cerium	A	mg/L	0.00002525	0.00002525		0.1	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.1006	0.1006		0.1	0	0		0.001		101%	90	110	0%	
Cobalt	A	mg/L	0.09728	0.09728		0.1	0	0		0.001		97%	90	110	0%	
Copper	A	mg/L	0.1048	0.1048		0.1	0	0		0.005		105%	90	110	0%	
Iron	A	mg/L	2.534	2.534		2.5	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.09915	0.09915		0.1	0	0		0.001		99%	90	110	0%	
Lead	A	mg/L	0.09875	0.09875		0.1	0	0		0.001		99%	90	110	0%	
Lithium	A	mg/L	1.206	1.206		1.25	0	0		1		96%	90	110	0%	
Magnesium	A	mg/L	24.2	24.2		25	0	0		1		97%	90	110	0%	
Manganese	A	mg/L	0.1027	0.1027		0.1	0	0		0.001		103%	90	110	0%	
Mercury	A	mg/L	0.00002801	0.00002801		0.002	0	0		0.001		1%	90	110	0%	S
Molybdenum	A	mg/L	0.09919	0.09919		0.1	0	0		0.001		99%	90	110	0%	
Nickel	A	mg/L	0.1039	0.1039		0.1	0	0		0.005		104%	90	110	0%	
Potassium	A	mg/L	24.46	24.46		25	0	0		1		98%	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	0.3965	0.3965		0.4	0	0		0.1		99%	90	110	0%	
Silver	A	mg/L	0.03974	0.03974		0.04	0	0		0.001		99%	90	110	0%	
Sodium	A	mg/L	24.74	24.74		25	0	0		1		99%	90	110	0%	
Strontium	A	mg/L	0.1	0.1		0.1	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.09807	0.09807		0.1	0	0		0.001		98%	90	110	0%	
Thorium	A	mg/L	0.09731	0.09731		0.1	0	0		0.05		97%	90	110	0%	
Tin	A	mg/L	0.09822	0.09822		0.1	0	0		0.001		98%	90	110	0%	
Titanium	A	mg/L	0.09876	0.09876		0.1	0	0		0.001		99%	90	110	0%	
Uranium	A	mg/L	0.09638	0.09638		0.1	0	0		0.001		96%	90	110	0%	
Vanadium	A	mg/L	0.09927	0.09927		0.1	0	0		0.005		99%	90	110	0%	
Zinc	A	mg/L	0.1038	0.1038		0.1	0	0		0.01		104%	90	110	0%	
Iron, Ferrous	C	mg/L	2.534	2.534		0.1	0	0		0.01	5	2534%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980129	100 ppb STD	ICPMS-6020B-C	Cal8		1/14/2022 12:59:	1	R373222		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	0.84851	0.84851		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
14980130	1000 ppb STD	ICPMS-6020B-C	Cal10		1/14/2022 1:06:2	1	R373222		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	0.0001952	0.0001952		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	0.9996	0.9996		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	1	1		1	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.9998	0.9998		1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	50.72	50.72		50	0	0		1		101%	90	110	0%	
Cerium	A	mg/L	0.0001178	0.0001178		0	0	0		0.001		0%			0%	
Chromium	A	mg/L	0.9998	0.9998		1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.9992	0.9992		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.025	6.025		6	0	0		0.01		100%	90	110	0%	
Lanthanum	A	mg/L	0.2399	0.2399		0	0	0		0.001		0%			0%	
Lead	A	mg/L	1.025	1.025		1	0	0		0.001		102%	90	110	0%	
Lithium	A	mg/L	2.519	2.519		2.5	0	0		1		101%	90	110	0%	
Magnesium	A	mg/L	50.35	50.35		50	0	0		1		101%	90	110	0%	
Manganese	A	mg/L	0.9995	0.9995		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	0.00001468	0.00001468		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00008085	0.00008085		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9993	0.9993		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.25	50.25		50	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.9999	0.9999		1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	-0.003956	-0.003956		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.36	0.36		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	50.04	50.04		50	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.9998	0.9998		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%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980130	1000 ppb STD	ICPMS-6020B-C	Cal10		1/14/2022 1:06:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.0002533	0.0002533		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.005065	0.005065		1	0	0		0.001		1%	90	110	0%	S
Uranium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.9999	0.9999		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	6.025	6.025		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	-0.00846584	-0.00846584		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
14980131	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/14/2022 1:12:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002543	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00004948	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0004087	0.0004087		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.0001113	0.0001113		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Beryllium	A	mg/L	0.00008357	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0001407	0.0001407		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.0001071	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001247	0.0001247		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Copper	A	mg/L	0.0001976	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.0002081	0.0002081		0	0	0	0.000056	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.0001208	0.0001208		0	0	0	0.000095	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.00002708	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.000149	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0002606	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.006444	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.0001497	0.0001497		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	0.0001362	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0003348	0.0003348		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.000227	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.00006986	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000139	0.000139		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	0.01216	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0009902	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
14980131	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/14/2022 1:12:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron, Ferrous	B	mg/L	0.0009902	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.006384	0.006384		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Potassium	B	mg/L	0.6865	0.6865		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Sodium	B	mg/L	0.02886	0.02886		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	0.005519	0.005519		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Vanadium	B	mg/L	-0.0006561	0		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0.0002758	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980132	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 1:19:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0008267	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002075	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.00001977	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-3.593E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00004876	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000009	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.00005869	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-7.646E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.00003235	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00002126	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-0.00001254	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.000003148	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00001909	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00005402	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.00786	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000005117	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.000002449	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00004888	0.00004888		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002041	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001743	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000006156	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002698	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0008154	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
14980132	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 1:19:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron, Ferrous	B	mg/L	0.0008154	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0008248	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.05045	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.0005562	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0.001735	0.001735		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Vanadium	B	mg/L	-0.001724	0		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-0.00000845	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980133	QCS	ICPMS-6020-W-	ICV		1/14/2022 1:25:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2613	0.2613		0.25	0	0	0.00086	0.001	1	105%	90	110	0%	
Antimony	A	mg/L	0.04676	0.04676		0.05	0	0	0.00042	0.001	0.1	94%	90	110	0%	
Arsenic	A	mg/L	0.04938	0.04938		0.05	0	0	0.00019	0.001	1	99%	90	110	0%	
Barium	A	mg/L	0.04848	0.04848		0.05	0	0	0.000042	0.001	1	97%	90	110	0%	
Beryllium	A	mg/L	0.02493	0.02493		0.025	0	0	0.00012	0.001	1	100%	90	110	0%	
Boron	A	mg/L	0.05674	0.05674		0.05	0	0	0.00561	0.00561	1	113%	90	110	0%	S
Cadmium	A	mg/L	0.02456	0.02456		0.025	0	0	0.000025	0.001	1	98%	90	110	0%	
Calcium	A	mg/L	2.492	2.492		2.5	0	0	0.02092	0.02092	50	100%	90	110	0%	
Cerium	A	mg/L	0.2522	0.2522		0.05	0	0	0.000012	0.001	0.1	504%	90	110	0%	S
Chromium	A	mg/L	0.05063	0.05063		0.05	0	0	0.00018	0.001	1	101%	90	110	0%	
Cobalt	A	mg/L	0.05115	0.05115		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Copper	A	mg/L	0.05394	0.05394		0.05	0	0	0.00027	0.001	1	108%	90	110	0%	
Iron	A	mg/L	0.2536	0.2536		0.25	0	0	0.00119	0.00119	5	101%	90	110	0%	
Lanthanum	A	mg/L	974.3	974.3		0.05	0	0	0.000011	0.001	0.1	948600%	90	110	0%	S
Lead	A	mg/L	0.04906	0.04906		0.05	0	0	0.000056	0.001	1	98%	90	110	0%	
Magnesium	A	mg/L	2.645	2.645		2.5	0	0	0.00564	0.00564	50	106%	90	110	0%	
Manganese	A	mg/L	0.2584	0.2584		0.25	0	0	0.000095	0.001	1	103%	90	110	0%	
Mercury	A	mg/L	0.005349	0.005349		0.001	0	0	0.00016	0.001	0.002	535%	90	110	0%	S
Molybdenum	A	mg/L	0.0466	0.0466		0.05	0	0	0.00005	0.001	0.1	93%	90	110	0%	
Nickel	A	mg/L	0.05272	0.05272		0.05	0	0	0.00063	0.001	1	105%	90	110	0%	
Potassium	A	mg/L	2.558	2.558		2.5	0	0	0.08139	0.08139	50	102%	90	110	0%	
Selenium	A	mg/L	0.05034	0.05034		0.05	0	0	0.00033	0.001	1	101%	90	110	0%	
Silicon	A	mg/L	0.5032	0.5032		0.5	0	0	0.01223	0.1	0.4	101%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980133	QCS	ICPMS-6020-W-	ICV		1/14/2022 1:25:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	0.02448	0.02448		0.025	0	0	0.00002	0.001	0.04	98%	90	110	0%	
Sodium	A	mg/L	2.622	2.622		2.5	0	0	0.02171	0.02171	50	105%	90	110	0%	
Strontium	A	mg/L	0.05	0.05		0.05	0	0	0.00014	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.04836	0.04836		0.05	0	0	0.000041	0.001	1	97%	90	110	0%	
Thorium	A	mg/L	0.04761	0.04761		0.05	0	0	0.00061	0.001	1	95%	90	110	0%	
Tin	A	mg/L	0.0481	0.0481		0.05	0	0	0.00132	0.00132	0.1	96%	90	110	0%	
Titanium	A	mg/L	0.04883	0.04883		0.05	0	0	0.000094	0.001	1	98%	90	110	0%	
Uranium	A	mg/L	0.05008	0.05008		0.05	0	0	0.000052	0.0003	1	100%	90	110	0%	
Vanadium	A	mg/L	0.04824	0.04824		0.05	0	0	0.0013	0.0013	1	96%	90	110	0%	
Zinc	A	mg/L	0.05115	0.05115		0.05	0	0	0.00273	0.00273	1	102%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2536	0.2536		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
14980134	CCV	ICPMS-6020-W-	CCV		1/14/2022 1:32:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05248	0.05248		0.05	0	0	0.00086	0.001	1	105%	90	110	0%	
Antimony	A	mg/L	0.05053	0.05053		0.05	0	0	0.00042	0.001	0.1	101%	90	110	0%	
Arsenic	A	mg/L	0.053	0.053		0.05	0	0	0.00019	0.001	1	106%	90	110	0%	
Barium	A	mg/L	0.05141	0.05141		0.05	0	0	0.000042	0.001	1	103%	90	110	0%	
Beryllium	A	mg/L	0.05165	0.05165		0.05	0	0	0.00012	0.001	1	103%	90	110	0%	
Boron	A	mg/L	0.05582	0.05582		0.05	0	0	0.00561	0.00561	1	112%	90	110	0%	S
Cadmium	A	mg/L	0.05104	0.05104		0.05	0	0	0.000025	0.001	1	102%	90	110	0%	
Calcium	A	mg/L	12.36	12.36		12.5	0	0	0.02092	0.02092	50	99%	90	110	0%	
Cerium	A	mg/L	0.2523	0.2523		0.05	0	0	0.000012	0.001	0.1	505%	90	110	0%	S
Chromium	A	mg/L	0.05461	0.05461		0.05	0	0	0.00018	0.001	1	109%	90	110	0%	
Cobalt	A	mg/L	0.05293	0.05293		0.05	0	0	0.000042	0.001	1	106%	90	110	0%	
Copper	A	mg/L	0.05596	0.05596		0.05	0	0	0.00027	0.001	1	112%	90	110	0%	S
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	0.04986	0.04986		0.05	0	0	0.000011	0.001	0.1	100%	90	110	0%	
Lead	A	mg/L	0.0515	0.0515		0.05	0	0	0.000056	0.001	1	103%	90	110	0%	
Magnesium	A	mg/L	12.7	12.7		12.5	0	0	0.00564	0.00564	50	102%	90	110	0%	
Manganese	A	mg/L	0.05464	0.05464		0.05	0	0	0.000095	0.001	1	109%	90	110	0%	
Mercury	A	mg/L	0.005216	0.005216		0.001	0	0	0.00016	0.001	0.002	522%	90	110	0%	S
Molybdenum	A	mg/L	0.05118	0.05118		0.05	0	0	0.00005	0.001	0.1	102%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980134	CCV	ICPMS-6020-W-	CCV		1/14/2022 1:32:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	0.05455	0.05455		0.05	0	0	0.00063	0.001	1	109%	90	110	0%	
Potassium	A	mg/L	12.86	12.86		12.5	0	0	0.08139	0.08139	50	103%	90	110	0%	
Selenium	A	mg/L	0.05236	0.05236		0.05	0	0	0.00033	0.001	1	105%	90	110	0%	
Silicon	A	mg/L	0.2035	0.2035		0.2	0	0	0.01223	0.1	0.4	102%	90	110	0%	
Silver	A	mg/L	0.01999	0.01999		0.02	0	0	0.00002	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	12.89	12.89		12.5	0	0	0.02171	0.02171	50	103%	90	110	0%	
Strontium	A	mg/L	0.05283	0.05283		0.05	0	0	0.00014	0.001	1	106%	90	110	0%	
Thallium	A	mg/L	0.05068	0.05068		0.05	0	0	0.000041	0.001	1	101%	90	110	0%	
Thorium	A	mg/L	0.04987	0.04987		0.05	0	0	0.00061	0.001	1	100%	90	110	0%	
Tin	A	mg/L	0.0516	0.0516		0.05	0	0	0.00132	0.00132	0.1	103%	90	110	0%	
Titanium	A	mg/L	0.05168	0.05168		0.05	0	0	0.000094	0.001	1	103%	90	110	0%	
Uranium	A	mg/L	0.04995	0.04995		0.05	0	0	0.000052	0.0003	1	100%	90	110	0%	
Vanadium	A	mg/L	0.05226	0.05226		0.05	0	0	0.0013	0.0013	1	105%	90	110	0%	
Zinc	A	mg/L	0.05444	0.05444		0.05	0	0	0.00273	0.00273	1	109%	90	110	0%	
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
14980135	CCB	ICPMS-6020-W-	CCB		1/14/2022 1:39:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0003943	0.0003943		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00008242	0.00008242		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0001133	0.0001133		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-8.544E-06	-8.544E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00006514	-0.00006514		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.002984	0.002984		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	-9.959E-07	-9.959E-07		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.0004157	0.0004157		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	0.000007056	0.000007056		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.00002888	-0.00002888		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-7.861E-06	-7.861E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.0000181	0.0000181		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.0001292	0.0001292		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-0.008875	-0.008875		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.00001046	0.00001046		0	0	0	0.000056	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
14980135	CCB	ICPMS-6020-W-	CCB		1/14/2022 1:39:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	-0.0001857	-0.0001857		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-0.00001478	-0.00001478		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00004553	0.00004553		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002407	0.00002407		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.00001446	-0.00001446		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.0484	0.0484		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00003647	0.00003647		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.008179	-0.008179		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000005169	0.000005169		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.001095	-0.001095		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	9.587E-08	9.587E-08		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001127	0.0001127		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002197	0.00002197		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	9.328E-07	9.328E-07		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001725	-0.0001725		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002667	0.000002667		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.0004333	-0.0004333		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.00001823	0.00001823		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0001292	0.0001292		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
14980136	LRB	ICPMS-6020-W-	MBLK		1/14/2022 1:45:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001154	0		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00003962	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0002529	0.0002529		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.000009558	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00006373	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Boron	A	mg/L	0.002117	0		0	0	0	0.00561	0.00561	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002003	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	0.005003	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	
Cerium	A	mg/L	0.000005959	0		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00004404	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-5.879E-06	0		0	0	0	0.000042	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
14980136	LRB	ICPMS-6020-W-	MBLK		1/14/2022 1:45:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.00004277	0		0	0	0	0.00027	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0.0001813	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Lanthanum	A	mg/L	-0.006431	0		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000003095	0		0	0	0	0.000056	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	0.0006923	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	
Manganese	A	mg/L	-3.747E-06	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00001795	0		0	0	0	0.00016	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00000815	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-5.646E-06	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Potassium	A	mg/L	0.05235	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	
Selenium	A	mg/L	0.00002993	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.007735	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-0.00006426	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.006699	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	
Strontium	A	mg/L	0.000007322	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003465	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001344	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00002688	0		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001047	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.257E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.0003602	0		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.0004401	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0001813	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
14980137	LFB	ICPMS-6020-W-	LFB		1/14/2022 1:51:4	1.03	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04802	0.0494606		0.05	0	0	0.0008858	0.001	1	99%	85	115	0%	
Antimony	A	mg/L	0.04312	0.0444136		0.05	0	0	0.0004326	0.001	0.1	89%	85	115	0%	
Arsenic	A	mg/L	0.04953	0.0510159		0.05	0	0	0.0001957	0.001	1	102%	85	115	0%	
Barium	A	mg/L	0.04766	0.0490898		0.05	0	0	4.326E-05	0.001	1	98%	85	115	0%	
Beryllium	A	mg/L	0.04857	0.0500271		0.05	0	0	0.0001236	0.001	1	100%	85	115	0%	
Boron	A	mg/L	0.05137	0.0529111		0.05	0	0	0.0057783	0.0057783	1	106%	85	115	0%	
Cadmium	A	mg/L	0.04795	0.0493885		0.05	0	0	2.575E-05	0.001	1	99%	85	115	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980137	LFB	ICPMS-6020-W-	LFB		1/14/2022 1:51:4	1.03	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	46.71	48.1113		50	0	0	0.0215476	0.0215476	50	96%	85	115	0%	
Cerium	A	mg/L	0.2487	0.256161		0.05	0	0	1.236E-05	0.001	0.1	512%	85	115	0%	S
Chromium	A	mg/L	0.04925	0.0507275		0.05	0	0	0.0001854	0.001	1	101%	85	115	0%	
Cobalt	A	mg/L	0.04654	0.0479362		0.05	0	0	4.326E-05	0.001	1	96%	85	115	0%	
Copper	A	mg/L	0.05088	0.0524064		0.05	0	0	0.0002781	0.001	1	105%	85	115	0%	
Iron	A	mg/L	4.852	4.99756		5.05	0	0	0.0012257	0.0012257	5	99%	85	115	0%	
Lanthanum	A	mg/L	0.1249	0.128647		0.05	0	0	1.133E-05	0.001	0.1	257%	85	115	0%	S
Lead	A	mg/L	0.04955	0.0510365		0.05	0	0	5.768E-05	0.001	1	102%	88	115	0%	
Magnesium	A	mg/L	49.38	50.8614		50	0	0	0.0058092	0.0058092	50	102%	85	115	0%	
Manganese	A	mg/L	0.04908	0.0505524		0.05	0	0	9.785E-05	0.001	1	101%	85	115	0%	
Mercury	A	mg/L	0.005305	0.00546415		0.001	0	0	0.0001648	0.001	0.002	546%	85	115	0%	S
Molybdenum	A	mg/L	0.04749	0.0489147		0.05	0	0	0.0000515	0.001	0.1	98%	85	115	0%	
Nickel	A	mg/L	0.04943	0.0509129		0.05	0	0	0.0006489	0.001	1	102%	85	115	0%	
Potassium	A	mg/L	48.73	50.1919		50	0	0	0.0838317	0.0838317	50	100%	85	115	0%	
Selenium	A	mg/L	0.04795	0.0493885		0.05	0	0	0.0003399	0.001	1	99%	85	115	0%	
Silicon	A	mg/L	0.1896	0.195288		0.2	0	0	0.0125969	0.1	0.4	98%	85	115	0%	
Silver	A	mg/L	0.0192	0.019776		0.02	0	0	0.0000206	0.001	0.04	99%	85	115	0%	
Sodium	A	mg/L	49.07	50.5421		50	0	0	0.0223613	0.0223613	50	101%	85	115	0%	
Strontium	A	mg/L	0.04858	0.0500374		0.05	0	0	0.0001442	0.001	1	100%	85	115	0%	
Thallium	A	mg/L	0.04772	0.0491516		0.05	0	0	4.223E-05	0.001	1	98%	85	115	0%	
Thorium	A	mg/L	0.04841	0.0498623		0.05	0	0	0.0006283	0.001	1	100%	85	115	0%	
Tin	A	mg/L	0.04794	0.0493782		0.05	0	0	0.0013596	0.0013596	0.1	99%	85	115	0%	
Titanium	A	mg/L	0.04966	0.0511498		0.05	0	0	9.682E-05	0.001	1	102%	85	115	0%	
Uranium	A	mg/L	0.04763	0.0490589		0.05	0	0	5.356E-05	0.0003	1	98%	85	115	0%	
Vanadium	A	mg/L	0.05089	0.0524167		0.05	0	0	0.001339	0.001339	1	105%	85	115	0%	
Zinc	A	mg/L	0.04946	0.0509438		0.05	0	0	0.0028119	0.0028119	1	102%	85	115	0%	
Iron, Ferrous	C	mg/L	4.852	4.99756		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
14980138	ICSA	ICPMS-6020-W-	ICSA		1/14/2022 1:57:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	39.41	39.41		40	0	0	0.00086	0.001	1	99%	80	120	0%	
Antimony	A	mg/L	0.0006332	0.0006332		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004162	-0.0004162		0	0	0	0.00019	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		
14980138	ICSA	ICPMS-6020-W-	ICSA		1/14/2022 1:57:5	1	R373222		0	0			

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.00006017	0.00006017		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.0001112	0.0001112		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001999	0.001999		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00005605	0.00005605		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	119	119		120	0	0	0.02092	0.02092	50	99%	80	120	0%	
Cerium	A	mg/L	0.0000134	0.0000134		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.0007944	0.0007944		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	0.0002937	0.0002937		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00006765	0.00006765		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	102.4	102.4		100	0	0	0.00119	0.00119	5	102%	80	120	0%	
Lanthanum	A	mg/L	0.1872	0.1872		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00002703	0.00002703		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	41.93	41.93		50	0	0	0.00564	0.00564	50	84%			0%	
Manganese	A	mg/L	0.0002005	0.0002005		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00003336	0.00003336		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.7686	0.7686		0.8	0	0	0.00005	0.001	0.1	96%	80	120	0%	
Nickel	A	mg/L	0.0001811	0.0001811		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	40	40		50	0	0	0.08139	0.08139	50	80%			0%	
Selenium	A	mg/L	0.00009825	0.00009825		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.007559	-0.007559		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.000005374	0.000005374		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	101.7	101.7		100	0	0	0.02171	0.02171	50	102%			0%	
Strontium	A	mg/L	0.00123	0.00123		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	0.00004863	0.00004863		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.00004002	0.00004002		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.0000841	0.0000841		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.7948	0.7948		0.8	0	0	0.000094	0.001	1	99%			0%	
Uranium	A	mg/L	0.000004103	0.000004103		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.006754	-0.006754		0	0	0	0.0013	0.0013	1	0%			0%	
Zinc	A	mg/L	0.0005825	0.0005825		0	0	0	0.00273	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	102.4	102.4		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
14980139	ICSAB	ICPMS-6020-W-	ICSAB		1/14/2022 2:04:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	38.82	38.82		40	0	0	0.00086	0.001	1	97%	80	120	0%	
Antimony	A	mg/L	0.0001777	0.0001777		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.009416	0.009416		0.01	0	0	0.00019	0.001	1	94%	80	120	0%	
Barium	A	mg/L	0.00007891	0.00007891		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00007843	-0.00007843		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001403	0.001403		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.009714	0.009714		0.01	0	0	0.000025	0.001	1	97%	80	120	0%	
Calcium	A	mg/L	116.4	116.4		120	0	0	0.02092	0.02092	50	97%	80	120	0%	
Cerium	A	mg/L	0.00001813	0.00001813		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.0206	0.0206		0.02	0	0	0.00018	0.001	1	103%	80	120	0%	
Cobalt	A	mg/L	0.02035	0.02035		0.02	0	0	0.000042	0.001	1	102%	80	120	0%	
Copper	A	mg/L	0.02141	0.02141		0.02	0	0	0.00027	0.001	1	107%	80	120	0%	
Iron	A	mg/L	100.8	100.8		100	0	0	0.00119	0.00119	5	101%	80	120	0%	
Lanthanum	A	mg/L	0.2117	0.2117		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00001619	0.00001619		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	42.37	42.37		40	0	0	0.00564	0.00564	50	106%	80	120	0%	
Manganese	A	mg/L	0.01993	0.01993		0.02	0	0	0.000095	0.001	1	100%	80	120	0%	
Mercury	A	mg/L	0.00001715	0.00001715		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.7514	0.7514		0.8	0	0	0.00005	0.001	0.1	94%	80	120	0%	
Nickel	A	mg/L	0.02078	0.02078		0.02	0	0	0.00063	0.001	1	104%	80	120	0%	
Potassium	A	mg/L	38.21	38.21		40	0	0	0.08139	0.08139	50	96%	80	120	0%	
Selenium	A	mg/L	0.01007	0.01007		0.01	0	0	0.00033	0.001	1	101%	80	120	0%	
Silicon	A	mg/L	-0.008525	-0.008525		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.004788	0.004788		0.005	0	0	0.00002	0.001	0.04	96%	80	120	0%	
Sodium	A	mg/L	104.9	104.9		100	0	0	0.02171	0.02171	50	105%	80	120	0%	
Strontium	A	mg/L	0.001186	0.001186		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	0.00001602	0.00001602		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.00002324	0.00002324		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.000007856	0.000007856		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.7948	0.7948		0.8	0	0	0.000094	0.001	1	99%	80	120	0%	
Uranium	A	mg/L	0.000001013	0.000001013		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.01259	0.01259		0.02	0	0	0.0013	0.0013	1	63%	80	120	0%	S
Zinc	A	mg/L	0.01037	0.01037		0.01	0	0	0.00273	0.00273	1	104%	80	120	0%	
Iron, Ferrous	C	mg/L	100.8	100.8		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
14980140	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 2:10:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001599	0.001599		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00005358	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0005534	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-4.902E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007756	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-2.738E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.0001462	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.00001299	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-7.925E-06	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-0.00002361	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001569	0.0001569		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0000213	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-9.739E-06	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01106	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-3.253E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-3.019E-06	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.000007431	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001182	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001314	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.436E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002593	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.001571	0.001571		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.001571	0.001571		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.001525	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.03535	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	0.02539	0.02539		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	0.001669	0.001669		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Zinc	B	mg/L	0.00001575	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980141	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 2:16:4	1	R373222		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
14980141	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 2:16:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001023	0.001023		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002954	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0005214	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-5.591E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008132	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-1.019E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.0001163	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-8.869E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-7.339E-06	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-0.00002664	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00004179	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00002103	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-0.00001108	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01135	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.878E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-3.468E-06	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.000004435	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000004524	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001872	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	5.855E-08	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002458	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0005679	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0005679	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0008656	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.02806	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	0.01568	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0.001696	0.001696		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Zinc	B	mg/L	0.00003071	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980142	CCV	ICPMS-6020-W-	CCV		1/14/2022 2:22:5	1	R373222		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
14980142	CCV	ICPMS-6020-W-	CCV		1/14/2022 2:22:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05083	0.05083		0.05	0	0	0.00086	0.001	1	102%	90	110	0%	
Antimony	A	mg/L	0.0499	0.0499		0.05	0	0	0.00042	0.001	0.1	100%	90	110	0%	
Arsenic	A	mg/L	0.05138	0.05138		0.05	0	0	0.00019	0.001	1	103%	90	110	0%	
Barium	A	mg/L	0.04996	0.04996		0.05	0	0	0.000042	0.001	1	100%	90	110	0%	
Beryllium	A	mg/L	0.05058	0.05058		0.05	0	0	0.00012	0.001	1	101%	90	110	0%	
Boron	A	mg/L	0.05335	0.05335		0.05	0	0	0.00561	0.00561	1	107%	90	110	0%	
Cadmium	A	mg/L	0.05047	0.05047		0.05	0	0	0.000025	0.001	1	101%	90	110	0%	
Calcium	A	mg/L	12.13	12.13		12.5	0	0	0.02092	0.02092	50	97%	90	110	0%	
Cerium	A	mg/L	0.2574	0.2574		0.05	0	0	0.000012	0.001	0.1	515%	90	110	0%	S
Chromium	A	mg/L	0.05235	0.05235		0.05	0	0	0.00018	0.001	1	105%	90	110	0%	
Cobalt	A	mg/L	0.05262	0.05262		0.05	0	0	0.000042	0.001	1	105%	90	110	0%	
Copper	A	mg/L	0.05645	0.05645		0.05	0	0	0.00027	0.001	1	113%	90	110	0%	S
Iron	A	mg/L	1.289	1.289		1.3	0	0	0.00119	0.00119	5	99%	90	110	0%	
Lanthanum	A	mg/L	0.01795	0.01795		0.05	0	0	0.000011	0.001	0.1	36%	90	110	0%	S
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	12.82	12.82		12.5	0	0	0.00564	0.00564	50	103%	90	110	0%	
Manganese	A	mg/L	0.05229	0.05229		0.05	0	0	0.000095	0.001	1	105%	90	110	0%	
Mercury	A	mg/L	0.005319	0.005319		0.001	0	0	0.00016	0.001	0.002	532%	90	110	0%	S
Molybdenum	A	mg/L	0.04957	0.04957		0.05	0	0	0.00005	0.001	0.1	99%	90	110	0%	
Nickel	A	mg/L	0.05452	0.05452		0.05	0	0	0.00063	0.001	1	109%	90	110	0%	
Potassium	A	mg/L	12.32	12.32		12.5	0	0	0.08139	0.08139	50	99%	90	110	0%	
Selenium	A	mg/L	0.05233	0.05233		0.05	0	0	0.00033	0.001	1	105%	90	110	0%	
Silicon	A	mg/L	0.1934	0.1934		0.2	0	0	0.01223	0.1	0.4	97%	90	110	0%	
Silver	A	mg/L	0.01975	0.01975		0.02	0	0	0.00002	0.001	0.04	99%	90	110	0%	
Sodium	A	mg/L	12.88	12.88		12.5	0	0	0.02171	0.02171	50	103%	90	110	0%	
Strontium	A	mg/L	0.05086	0.05086		0.05	0	0	0.00014	0.001	1	102%	90	110	0%	
Thallium	A	mg/L	0.05184	0.05184		0.05	0	0	0.000041	0.001	1	104%	90	110	0%	
Thorium	A	mg/L	0.05003	0.05003		0.05	0	0	0.00061	0.001	1	100%	90	110	0%	
Tin	A	mg/L	0.05105	0.05105		0.05	0	0	0.00132	0.00132	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.0507	0.0507		0.05	0	0	0.000094	0.001	1	101%	90	110	0%	
Uranium	A	mg/L	0.04964	0.04964		0.05	0	0	0.000052	0.0003	1	99%	90	110	0%	
Vanadium	A	mg/L	0.04695	0.04695		0.05	0	0	0.0013	0.0013	1	94%	90	110	0%	
Zinc	A	mg/L	0.0538	0.0538		0.05	0	0	0.00273	0.00273	1	108%	90	110	0%	
Iron, Ferrous	C	mg/L	1.289	1.289		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			
14980143	CCB	ICPMS-6020-W-	CCB		1/14/2022 2:29:1	1	R373222		0	0				

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.00005245	-0.00005245		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00005666	0.00005666		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004258	-0.0004258		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-4.756E-06	-4.756E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00007535	-0.00007535		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.0006254	0.0006254		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.000002096	0.000002096		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.002085	0.002085		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	0.000005633	0.000005633		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002362	0.00002362		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-4.151E-06	-4.151E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	-5.754E-06	-5.754E-06		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.0003675	0.0003675		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-0.004835	-0.004835		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-1.311E-06	-1.311E-06		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	-0.0006076	-0.0006076		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-8.342E-06	-8.342E-06		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001334	0.00001334		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00003607	0.00003607		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.00002304	0.00002304		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.03296	0.03296		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-7.207E-07	-7.207E-07		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01131	-0.01131		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.00000402	0.00000402		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.01489	0.01489		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	0.000000107	0.000000107		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009859	0.00009859		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001591	0.00001591		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-0.00001869	-0.00001869		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001961	-0.0001961		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00000173	0.00000173		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.005042	-0.005042		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-0.0000199	-0.0000199		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0003675	0.0003675		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
14980144	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 2:35:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000974	0.000974		0	0	0	0.00086	0.001	1	0%	0	0	0%	J
Antimony	A	mg/L	0.00001998	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0004757	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-7.699E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008098	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	8.093E-07	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.00002479	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.00001053	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-8.708E-06	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-0.00001854	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.000009736	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	-0.00002005	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.012	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.698E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-1.489E-06	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00001965	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000007303	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.000237	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.465E-07	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.002818	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0003042	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003042	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.001381	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.01843	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	0.001727	0.001727		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
14980145	B22010212-001	ICPMS-6020-W-	SAMP		1/14/2022 2:41:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001896	0.001896		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0000727	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008619	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.0007333	0.0007333		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.00003325	0		0	0	0	0.000042	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
14980145	B22010212-001	ICPMS-6020-W-	SAMP		1/14/2022 2:41:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.000006059	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.001585	0.001585		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Thallium	A	mg/L	0.00002787	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000002844	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001293	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0008937	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.004021	0.004021		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00003967	0.00003967		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	15.64	15.64		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.0006463	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0006463	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	18.15	18.15		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.006775	0.006775		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	4.978	4.978		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0002029	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006226	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	39.43	39.43		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Strontium	B	mg/L	0.1694	0.1694		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.0000341	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
14980146	B22010212-001	ICPMS-6020-W-	SD		1/14/2022 2:47:5	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001481	0.007405		0	0	0.001896	0.0043	0.0043	1	0%				N
Antimony	A	mg/L	0.00002397	0		0	0	0	0.0021	0.0021	0.1	0%				
Arsenic	A	mg/L	-0.0002077	0		0	0	0	0.00095	0.001	1	0%				
Barium	A	mg/L	0.001003	0.005015		0	0	0.004021	0.00021	0.001	1	0%			22%	R
Beryllium	A	mg/L	-0.00007635	0		0	0	0	0.0006	0.001	1	0%				
Boron	A	mg/L	0.009992	0.04996		0	0	0.04278	0.02805	0.02805	1	0%				N
Cadmium	A	mg/L	0.00003737	0.00018685		0	0	3.967E-05	0.000125	0.001	1	0%				N
Calcium	A	mg/L	3.17	15.85		0	0	15.64	0.1046	0.1046	50	0%			1%	
Cerium	A	mg/L	0.00002529	0.00012645		0	0	1.627E-05	0.00006	0.001	0.1	0%				N
Chromium	A	mg/L	0.0002489	0.0012445		0	0	0.0007333	0.0009	0.001	1	0%				N
Cobalt	A	mg/L	6.729E-07	0		0	0	0	0.00021	0.001	1	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980146	B22010212-001	ICPMS-6020-W-	SD		1/14/2022 2:47:5	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.0003958	0.001979		0	0	0.001153	0.00135	0.00135	1	0%				N
Iron	A	mg/L	0.001313	0.006565		0	0	0	0.00595	0.00595	5	0%				N
Lanthanum	A	mg/L	0.027	0.135		0	0	0.009896	0.000055	0.001	0.1	0%			173%	R
Lead	A	mg/L	0.0000568	0.000284		0	0	0	0.00028	0.001	1	0%				N
Magnesium	A	mg/L	3.687	18.435		0	0	18.15	0.0282	0.0282	50	0%			2%	
Manganese	A	mg/L	0.001414	0.00707		0	0	0.006775	0.000475	0.001	1	0%			4%	
Mercury	A	mg/L	0.00001441	0		0	0	0	0.0008	0.001	0.002	0%				
Molybdenum	A	mg/L	0.0003416	0.001708		0	0	0.001585	0.00025	0.001	0.1	0%				N
Nickel	A	mg/L	0.0003967	0		0	0	0.001312	0.00315	0.00315	1	0%				
Potassium	A	mg/L	0.9537	4.7685		0	0	4.978	0.40695	0.40695	50	0%			4%	
Selenium	A	mg/L	0.00004325	0		0	0	0	0.00165	0.00165	1	0%				
Silicon	A	mg/L	5.335	26.675		0	0	26.54	0.06115	0.1	0.4	0%			1%	
Silver	A	mg/L	-0.00006384	0		0	0	0	0.0001	0.001	0.04	0%				
Sodium	A	mg/L	8.321	41.605		0	0	39.43	0.10855	0.10855	50	0%			5%	
Strontium	A	mg/L	0.03367	0.16835		0	0	0.1694	0.0007	0.001	1	0%			1%	
Thallium	A	mg/L	0.00000192	0		0	0	0	0.000205	0.001	1	0%				
Thorium	A	mg/L	0.000008411	0		0	0	0	0.00305	0.00305	1	0%				
Tin	A	mg/L	0.00003435	0		0	0	0	0.0066	0.0066	0.1	0%				
Titanium	A	mg/L	0.0001008	0.000504		0	0	0.001062	0.00047	0.001	1	0%				N
Uranium	A	mg/L	0.00000376	0		0	0	0	0.00026	0.0003	1	0%				
Vanadium	A	mg/L	-0.0002897	0		0	0	0	0.0065	0.0065	1	0%				
Zinc	A	mg/L	0.001675	0		0	0	0.002951	0.01365	0.01365	1	0%				
Iron, Ferrous	C	mg/L	0.001313	0.006565		0	0	0	0.00595	0.00595	5	0%				N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980147	B22010212-001	ICPMS-6020-W-	MS		1/14/2022 2:54:0	1.03	R373222		1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04562	0.0469886		0.05	0.001896	0	0.0008858	0.001	1	90%	75	125	0%	
Antimony	A	mg/L	0.03908	0.0402524		0.05	0	0	0.0004326	0.001	0.1	81%	75	125	0%	
Arsenic	A	mg/L	0.0475	0.048925		0.05	0	0	0.0001957	0.001	1	98%	75	125	0%	
Barium	A	mg/L	0.05112	0.0526536		0.05	0.004021	0	4.326E-05	0.001	1	97%	75	125	0%	
Beryllium	A	mg/L	0.04481	0.0461543		0.05	0	0	0.0001236	0.001	1	92%	75	125	0%	
Boron	A	mg/L	0.09125	0.0939875		0.05	0.04278	0	0.0057783	0.0057783	1	102%	75	125	0%	
Cadmium	A	mg/L	0.04642	0.0478126		0.05	3.967E-05	0	2.575E-05	0.001	1	96%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980147	B22010212-001	ICPMS-6020-W-	MS		1/14/2022 2:54:0	1.03	R373222		1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	57.73	59.4619		50	15.64	0	0.0215476	0.0215476	50	88%	75	125	0%	E
Cerium	A	mg/L	0.2481	0.255543		0.05	1.627E-05	0	1.236E-05	0.001	0.1	511%	75	125	0%	SE
Chromium	A	mg/L	0.04906	0.0505318		0.05	0.0007333	0	0.0001854	0.001	1	100%	75	125	0%	
Cobalt	A	mg/L	0.04596	0.0473388		0.05	0	0	4.326E-05	0.001	1	95%	75	125	0%	
Copper	A	mg/L	0.05163	0.0531789		0.05	0.001153	0	0.0002781	0.001	1	104%	75	125	0%	
Iron	A	mg/L	4.628	4.76684		5.05	0	0	0.0012257	0.0012257	5	94%	75	125	0%	
Lanthanum	A	mg/L	0.1908	0.196524		0.05	0.009896	0	1.133E-05	0.001	0.1	373%	75	125	0%	SE
Lead	A	mg/L	0.04818	0.0496254		0.05	0	0	5.768E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	64.63	66.5689		50	18.15	0	0.0058092	0.0058092	50	97%	75	125	0%	E
Manganese	A	mg/L	0.05292	0.0545076		0.05	0.006775	0	9.785E-05	0.001	1	95%	75	125	0%	
Mercury	A	mg/L	0.005172	0.00532716		0.001	0	0	0.0001648	0.001	0.002	533%	75	125	0%	SE
Molybdenum	A	mg/L	0.04693	0.0483379		0.05	0.001585	0	0.0000515	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.05019	0.0516957		0.05	0.001312	0	0.0006489	0.001	1	101%	75	125	0%	
Potassium	A	mg/L	48.58	50.0374		50	4.978	0	0.0838317	0.0838317	50	90%	75	125	0%	
Selenium	A	mg/L	0.04669	0.0480907		0.05	0	0	0.0003399	0.001	1	96%	75	125	0%	
Silicon	A	mg/L	25.67	26.4401		0.2	26.54	0	0.0125969	0.1	0.4		75	125	0%	AE
Silver	A	mg/L	0.01868	0.0192404		0.02	0	0	0.0000206	0.001	0.04	96%	75	125	0%	
Sodium	A	mg/L	85.01	87.5603		50	39.43	0	0.0223613	0.0223613	50	96%	75	125	0%	E
Strontium	A	mg/L	0.2064	0.212592		0.05	0.1694	0	0.0001442	0.001	1	86%	75	125	0%	
Thallium	A	mg/L	0.04655	0.0479465		0.05	0	0	4.223E-05	0.001	1	96%	75	125	0%	
Thorium	A	mg/L	0.04664	0.0480392		0.05	0	0	0.0006283	0.001	1	96%	75	125	0%	
Tin	A	mg/L	0.04614	0.0475242		0.05	0	0	0.0013596	0.0013596	0.1	95%	75	125	0%	
Titanium	A	mg/L	0.05074	0.0522622		0.05	0.001062	0	9.682E-05	0.001	1	102%	75	125	0%	
Uranium	A	mg/L	0.04687	0.0482761		0.05	0	0	5.356E-05	0.0003	1	97%	75	125	0%	
Vanadium	A	mg/L	0.05411	0.0557333		0.05	0	0	0.001339	0.001339	1	111%	75	125	0%	
Zinc	A	mg/L	0.04999	0.0514897		0.05	0.002951	0	0.0028119	0.0028119	1	97%	75	125	0%	
Iron, Ferrous	C	mg/L	4.628	4.76684		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
14980148	B22010212-001	ICPMS-6020-W-	MSD		1/14/2022 3:00:2	1.03	R373222		1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04615	0.0475345		0.05	0.001896	0.0469886	0.0008858	0.001	1	91%	75	125	1%	
Antimony	A	mg/L	0.04028	0.0414884		0.05	0	0.0402524	0.0004326	0.001	0.1	83%	75	125	3%	
Arsenic	A	mg/L	0.04771	0.0491413		0.05	0	0.048925	0.0001957	0.001	1	98%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980148	B22010212-001	ICPMS-6020-W-	MSD		1/14/2022 3:00:2	1.03	R373222		1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.05116	0.0526948		0.05	0.004021	0.0526536	4.326E-05	0.001	1	97%	75	125	0%	
Beryllium	A	mg/L	0.04482	0.0461646		0.05	0	0.0461543	0.0001236	0.001	1	92%	75	125	0%	
Boron	A	mg/L	0.09147	0.0942141		0.05	0.04278	0.0939875	0.0057783	0.0057783	1	103%	75	125	0%	
Cadmium	A	mg/L	0.04677	0.0481731		0.05	3.967E-05	0.0478126	2.575E-05	0.001	1	96%	75	125	1%	
Calcium	A	mg/L	63.51	65.4153		50	15.64	59.4619	0.0215476	0.0215476	50	100%	75	125	10%	E
Cerium	A	mg/L	0.2476	0.255028		0.05	1.627E-05	0.255543	1.236E-05	0.001	0.1	510%	75	125	0%	SE
Chromium	A	mg/L	0.04809	0.0495327		0.05	0.0007333	0.0505318	0.0001854	0.001	1	98%	75	125	2%	
Cobalt	A	mg/L	0.0461	0.047483		0.05	0	0.0473388	4.326E-05	0.001	1	95%	75	125	0%	
Copper	A	mg/L	0.05119	0.0527257		0.05	0.001153	0.0531789	0.0002781	0.001	1	103%	75	125	1%	
Iron	A	mg/L	5.062	5.21386		5.05	0	4.76684	0.0012257	0.0012257	5	103%	75	125	9%	E
Lanthanum	A	mg/L	0.5499	0.566397		0.05	0.009896	0.196524	1.133E-05	0.001	0.1	1113%	75	125	97%	SRE
Lead	A	mg/L	0.04884	0.0503052		0.05	0	0.0496254	5.768E-05	0.001	1	101%	88	115	1%	
Magnesium	A	mg/L	63.95	65.8685		50	18.15	66.5689	0.0058092	0.0058092	50	95%	75	125	1%	E
Manganese	A	mg/L	0.05306	0.0546518		0.05	0.006775	0.0545076	9.785E-05	0.001	1	96%	75	125	0%	
Mercury	A	mg/L	0.005311	0.00547033		0.001	0	0.0053272	0.0001648	0.001	0.002	547%	75	125	3%	SE
Molybdenum	A	mg/L	0.04638	0.0477714		0.05	0.001585	0.0483379	0.0000515	0.001	0.1	92%	75	125	1%	
Nickel	A	mg/L	0.04964	0.0511292		0.05	0.001312	0.0516957	0.0006489	0.001	1	100%	75	125	1%	
Potassium	A	mg/L	49.2	50.676		50	4.978	50.0374	0.0838317	0.0838317	50	91%	75	125	1%	
Selenium	A	mg/L	0.05066	0.0521798		0.05	0	0.0480907	0.0003399	0.001	1	104%	75	125	8%	
Silicon	A	mg/L	27.75	28.5825		0.2	26.54	26.4401	0.0125969	0.1	0.4		75	125	8%	AE
Silver	A	mg/L	0.01859	0.0191477		0.02	0	0.0192404	0.0000206	0.001	0.04	96%	75	125	0%	
Sodium	A	mg/L	84.88	87.4264		50	39.43	87.5603	0.0223613	0.0223613	50	96%	75	125	0%	E
Strontium	A	mg/L	0.2067	0.212901		0.05	0.1694	0.212592	0.0001442	0.001	1	87%	75	125	0%	
Thallium	A	mg/L	0.04693	0.0483379		0.05	0	0.0479465	4.223E-05	0.001	1	97%	75	125	1%	
Thorium	A	mg/L	0.04642	0.0478126		0.05	0	0.0480392	0.0006283	0.001	1	96%	75	125	0%	
Tin	A	mg/L	0.04581	0.0471843		0.05	0	0.0475242	0.0013596	0.0013596	0.1	94%	75	125	1%	
Titanium	A	mg/L	0.04982	0.0513146		0.05	0.001062	0.0522622	9.682E-05	0.001	1	101%	75	125	2%	
Uranium	A	mg/L	0.04709	0.0485027		0.05	0	0.0482761	5.356E-05	0.0003	1	97%	75	125	0%	
Vanadium	A	mg/L	0.05366	0.0552698		0.05	0	0.0557333	0.001339	0.001339	1	111%	75	125	1%	
Zinc	A	mg/L	0.04969	0.0511807		0.05	0.002951	0.0514897	0.0028119	0.0028119	1	96%	75	125	1%	
Iron, Ferrous	C	mg/L	5.062	5.21386		0	0	4.76684	0.0012257	0.0012257	5	0%	0	0	9%	E

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980149	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 3:06:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0009151	0.0009151		0	0	0	0.00086	0.001	1	0%	0	0	0%	J
Antimony	A	mg/L	0.0008078	0.0008078		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.00000488	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-7.522E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008654	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000006256	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-2.928E-06	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-6.039E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-2.524E-07	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-2.543E-06	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00004669	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.00002768	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01043	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000001501	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.000002017	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00005052	0.00005052		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00001865	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0001573	0.0001573		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.000002708	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.006433	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0003565	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003565	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.003508	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.03171	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	0.001768	0.001768		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
14980150	B22010213-003	ICPMS-6020-W-	SAMP		1/14/2022 3:12:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001315	0.001315		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0002479	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008736	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001151	0.0001151		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00016	0.00016		0	0	0	0.000056	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
14980150	B22010213-003	ICPMS-6020-W-	SAMP		1/14/2022 3:12:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Molybdenum	A	mg/L	0.0002402	0.0002402		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Thallium	A	mg/L	0.00002272	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000005861	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0007836	0.0007836		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.00002909	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0009418	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.01127	0.01127		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00005305	0.00005305		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	21.39	21.39		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Chromium	B	mg/L	0.0004534	0.0004534		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Iron	B	mg/L	0.0104	0.0104		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0104	0.0104		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	21.46	21.46		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.06204	0.06204		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	2.368	2.368		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0005207	0.0005207		0	0	0	0.00033	0.001	1	0%	0	0	0%	J
Silver	B	mg/L	-0.00006348	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	B	mg/L	0.1626	0.1626		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.00012	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
14980151	B22010214-001	ICPMS-6020-W-	SAMP		1/14/2022 3:19:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001502	0.001502		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001247	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009223	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.002877	0.002877		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-7.453E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.0001365	0.0001365		0	0	0	0.000056	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.001039	0.001039		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Thallium	A	mg/L	0.000008008	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000007818	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000006454	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0009318	0		0	0	0	0.00019	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
14980151	B22010214-001	ICPMS-6020-W-	SAMP		1/14/2022 3:19:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	B	mg/L	0.001848	0.001848		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.0000356	0.0000356		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	7.355	7.355		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.0009848	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0009848	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	8.46	8.46		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.000463	0.000463		0	0	0	0.000095	0.001	1	0%	0	0	0%	J
Potassium	B	mg/L	1.701	1.701		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0001279	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006364	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	35.19	35.19		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Strontium	B	mg/L	0.05686	0.05686		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.000115	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
14980152	B22010219-001	ICPMS-6020-W-	SAMP		1/14/2022 3:25:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.002654	0.002654		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.000346	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009217	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0004274	0.0004274		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.000003357	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.01223	0.01223		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Thallium	A	mg/L	0.000003161	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000001851	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0007607	0.0007607		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.00007705	0.00007705		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Arsenic	B	mg/L	-0.0003298	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.004231	0.004231		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00003142	0.00003142		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	27.51	27.51		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Chromium	B	mg/L	-0.0001088	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.00475	0.00475		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00475	0.00475		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
14980152	B22010219-001	ICPMS-6020-W-	SAMP		1/14/2022 3:25:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	B	mg/L	31.55	31.55		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.2486	0.2486		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	2.939	2.939		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.00005342	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006479	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	B	mg/L	0.221	0.221		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.0000332	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
14980153	B22010366-001	ICPMS-6020-W-	SAMP		1/14/2022 3:31:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.004713	0.004713		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0002075	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.0000939	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0004998	0.0004998		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00001123	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0003934	0.0003934		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Strontium	A	mg/L	0.06872	0.06872		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-8.791E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000002805	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001365	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0001244	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.00358	0.00358		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.0000259	0.0000259		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	9.76	9.76		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Chromium	B	mg/L	-0.00019	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.3541	0.3541		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.3541	0.3541		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	10.1	10.1		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.499	0.499		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	1.959	1.959		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	-0.00003495	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006457	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	39.24	39.24		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980153	B22010366-001	ICPMS-6020-W-	SAMP		1/14/2022 3:31:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	B	mg/L	-0.00008196	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
14980154	B22010369-001	ICPMS-6020-W-	SAMP		1/14/2022 3:37:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001535	0.001535		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001195	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009156	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.003575	0.003575		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-7.246E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.00001142	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0005415	0.0005415		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Strontium	A	mg/L	0.05002	0.05002		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-0.00000111	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000000992	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001361	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.000781	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.004899	0.004899		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.0000285	0.0000285		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	5.069	5.069		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.0003	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	8.624	8.624		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.000006518	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	3.148	3.148		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0003051	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006508	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Tin	B	mg/L	-0.0001145	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
14980155	B22010403-001	ICPMS-6020-W-	SAMP		1/14/2022 3:43:5	1	R373222		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
14980155	B22010403-001	ICPMS-6020-W-	SAMP		1/14/2022 3:43:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001814	0.001814		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0000376	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009392	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.001645	0.001645		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00002939	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.00000212	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0008882	0.0008882		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Strontium	A	mg/L	0.06889	0.06889		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-4.808E-06	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	7.371E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001652	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0009348	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.003781	0.003781		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00002446	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Calcium	B	mg/L	9.929	9.929		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.003134	0.003134		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.003134	0.003134		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	12.3	12.3		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.0005809	0.0005809		0	0	0	0.000095	0.001	1	0%	0	0	0%	J
Potassium	B	mg/L	1.792	1.792		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0003103	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00005916	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Tin	B	mg/L	-0.0001164	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
14980156	CCV	ICPMS-6020-W-	CCV		1/14/2022 3:50:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05084	0.05084		0.05	0	0	0.00086	0.001	1	102%	90	110	0%	
Antimony	A	mg/L	0.05169	0.05169		0.05	0	0	0.00042	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05434	0.05434		0.05	0	0	0.00019	0.001	1	109%	90	110	0%	
Barium	A	mg/L	0.05285	0.05285		0.05	0	0	0.000042	0.001	1	106%	90	110	0%	
Beryllium	A	mg/L	0.05455	0.05455		0.05	0	0	0.00012	0.001	1	109%	90	110	0%	
Boron	A	mg/L	0.06184	0.06184		0.05	0	0	0.00561	0.00561	1	124%	90	110	0%	S
Cadmium	A	mg/L	0.05208	0.05208		0.05	0	0	0.000025	0.001	1	104%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980156	CCV	ICPMS-6020-W-	CCV		1/14/2022 3:50:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	11.49	11.49		12.5	0	0	0.02092	0.02092	50	92%	90	110	0%	
Cerium	A	mg/L	0.2672	0.2672		0.05	0	0	0.000012	0.001	0.1	534%	90	110	0%	S
Chromium	A	mg/L	0.05508	0.05508		0.05	0	0	0.00018	0.001	1	110%	90	110	0%	
Cobalt	A	mg/L	0.0516	0.0516		0.05	0	0	0.000042	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05948	0.05948		0.05	0	0	0.00027	0.001	1	119%	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	0.03182	0.03182		0.05	0	0	0.000011	0.001	0.1	64%	90	110	0%	S
Lead	A	mg/L	0.05219	0.05219		0.05	0	0	0.000056	0.001	1	104%	90	110	0%	
Magnesium	A	mg/L	13.17	13.17		12.5	0	0	0.00564	0.00564	50	105%	90	110	0%	
Manganese	A	mg/L	0.05277	0.05277		0.05	0	0	0.000095	0.001	1	106%	90	110	0%	
Mercury	A	mg/L	0.005354	0.005354		0.001	0	0	0.00016	0.001	0.002	535%	90	110	0%	S
Molybdenum	A	mg/L	0.0498	0.0498		0.05	0	0	0.00005	0.001	0.1	100%	90	110	0%	
Nickel	A	mg/L	0.05728	0.05728		0.05	0	0	0.00063	0.001	1	115%	90	110	0%	S
Potassium	A	mg/L	11.76	11.76		12.5	0	0	0.08139	0.08139	50	94%	90	110	0%	
Selenium	A	mg/L	0.05314	0.05314		0.05	0	0	0.00033	0.001	1	106%	90	110	0%	
Silicon	A	mg/L	0.1985	0.1985		0.2	0	0	0.01223	0.1	0.4	99%	90	110	0%	
Silver	A	mg/L	0.02	0.02		0.02	0	0	0.00002	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	13.39	13.39		12.5	0	0	0.02171	0.02171	50	107%	90	110	0%	
Strontium	A	mg/L	0.05178	0.05178		0.05	0	0	0.00014	0.001	1	104%	90	110	0%	
Thallium	A	mg/L	0.04945	0.04945		0.05	0	0	0.000041	0.001	1	99%	90	110	0%	
Thorium	A	mg/L	0.05019	0.05019		0.05	0	0	0.00061	0.001	1	100%	90	110	0%	
Tin	A	mg/L	0.05162	0.05162		0.05	0	0	0.00132	0.00132	0.1	103%	90	110	0%	
Titanium	A	mg/L	0.05048	0.05048		0.05	0	0	0.000094	0.001	1	101%	90	110	0%	
Uranium	A	mg/L	0.04874	0.04874		0.05	0	0	0.000052	0.0003	1	97%	90	110	0%	
Vanadium	A	mg/L	0.05566	0.05566		0.05	0	0	0.0013	0.0013	1	111%	90	110	0%	S
Zinc	A	mg/L	0.05713	0.05713		0.05	0	0	0.00273	0.00273	1	114%	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
14980157	CCB	ICPMS-6020-W-	CCB		1/14/2022 3:56:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0001979	-0.0001979		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.0001067	0.0001067		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0001636	0.0001636		0	0	0	0.00019	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			
14980157	CCB	ICPMS-6020-W-	CCB		1/14/2022 3:56:2	1	R373222		0	0				

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	-4.527E-06	-4.527E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00008168	-0.00008168		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.005563	0.005563		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	8.946E-07	8.946E-07		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.00191	-0.00191		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	5.294E-07	5.294E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00006743	0.00006743		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-8.548E-07	-8.548E-07		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	-0.00001368	-0.00001368		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.0003483	0.0003483		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-0.002107	-0.002107		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-4.046E-06	-4.046E-06		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	-0.0001582	-0.0001582		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	0.000002909	0.000002909		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.0000397	0.0000397		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00003251	0.00003251		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.00001399	0.00001399		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.002234	-0.002234		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00003618	0.00003618		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.009598	-0.009598		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	9.709E-07	9.709E-07		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.03404	0.03404		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	0.000008378	0.000008378		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001645	0.0001645		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002156	0.00002156		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00007279	0.00007279		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001944	-0.0001944		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002018	0.000002018		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.002185	0.002185		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.000007244	0.000007244		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0003483	0.0003483		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
14980158	B22010406-001	ICPMS-6020-W-	SAMP		1/14/2022 4:02:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.002057	0.002057		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.001046	0.001046		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008909	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.002129	0.002129		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00001176	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00001307	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0001225	0.0001225		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Strontium	A	mg/L	0.08616	0.08616		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00007269	0.00007269		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.000005787	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001048	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.000884	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.003501	0.003501		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00002626	0.00002626		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	13.21	13.21		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.003452	0.003452		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.003452	0.003452		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	15.36	15.36		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.001986	0.001986		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	1.725	1.725		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.0001431	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006276	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	33.66	33.66		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.00002453	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
14980159	B22010409-001	ICPMS-6020-W-	SAMP		1/14/2022 4:08:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.004996	0.004996		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.000465	0.000465		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	J
Beryllium	A	mg/L	-0.00009262	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.000015	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.004413	0.004413		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Thallium	A	mg/L	0.00002254	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
14980159	B22010409-001	ICPMS-6020-W-	SAMP		1/14/2022 4:08:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	-2.903E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0002772	0.0002772		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Arsenic	B	mg/L	0.0004091	0.0004091		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	B	mg/L	0.022	0.022		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00003229	0.00003229		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	12.58	12.58		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001658	0.001658		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	B	mg/L	0.00000323	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.006266	0.006266		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.006266	0.006266		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.457	9.457		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.003244	0.003244		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	2.953	2.953		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.00005438	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006297	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	44.69	44.69		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Strontium	B	mg/L	0.1175	0.1175		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.00003395	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
14980160	B22010410-001	ICPMS-6020-W-	SAMP		1/14/2022 4:15:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003273	0.003273		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002039	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009273	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.000003129	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0007961	0.0007961		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Thallium	A	mg/L	0.00002548	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	6.458E-07	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00003366	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.0004868	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	B	mg/L	0.005797	0.005797		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00002513	0.00002513		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	16.7	16.7		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980160	B22010410-001	ICPMS-6020-W-	SAMP		1/14/2022 4:15:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	B	mg/L	0.001551	0.001551		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	B	mg/L	0.000001542	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.0003262	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003262	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	16	16		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Manganese	B	mg/L	0.00006699	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	2.358	2.358		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.00003063	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00005804	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	38.3	38.3		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Strontium	B	mg/L	0.1144	0.1144		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.00009662	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
14980161	B22010411-001	ICPMS-6020-W-	SAMP		1/14/2022 4:21:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001497	0.001497		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00004649	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Barium	A	mg/L	0.002022	0.002022		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009219	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00005264	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.01395	0.01395		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Thallium	A	mg/L	0.000009348	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000002665	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0002453	0.0002453		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.000004863	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Arsenic	B	mg/L	-0.000802	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Cadmium	B	mg/L	0.00005373	0.00005373		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Calcium	B	mg/L	12.69	12.69		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Chromium	B	mg/L	-0.0001358	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	B	mg/L	0.00001582	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Iron	B	mg/L	0.03614	0.03614		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.03614	0.03614		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	13.53	13.53		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980161	B22010411-001	ICPMS-6020-W-	SAMP		1/14/2022 4:21:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	B	mg/L	0.04783	0.04783		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Potassium	B	mg/L	3.701	3.701		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Selenium	B	mg/L	0.00003702	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	B	mg/L	-0.00006363	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Sodium	B	mg/L	45.32	45.32		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Strontium	B	mg/L	0.08108	0.08108		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Tin	B	mg/L	-0.00009139	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
14980162	B22010411-001	ICPMS-6020-W-	SD		1/14/2022 4:27:3	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.002284	0.01142		0	0	0.001497	0.0043	0.0043	1	0%				N
Antimony	A	mg/L	0.00002777	0		0	0	0	0.0021	0.0021	0.1	0%				
Arsenic	A	mg/L	-0.00005744	0		0	0	0	0.00095	0.001	1	0%				
Barium	A	mg/L	0.0008374	0.004187		0	0	0.002022	0.00021	0.001	1	0%				N
Beryllium	A	mg/L	-0.00008967	0		0	0	0	0.0006	0.001	1	0%				
Boron	A	mg/L	0.01755	0.08775		0	0	0.0731	0.02805	0.02805	1	0%				N
Cadmium	A	mg/L	0.0000216	0		0	0	5.373E-05	0.000125	0.001	1	0%				
Calcium	A	mg/L	2.411	12.055		0	0	12.69	0.1046	0.1046	50	0%			5%	
Cerium	A	mg/L	0.00002228	0.0001114		0	0	1.622E-05	0.00006	0.001	0.1	0%				N
Chromium	A	mg/L	0.0001438	0		0	0	0	0.0009	0.001	1	0%				
Cobalt	A	mg/L	-2.006E-06	0		0	0	0	0.00021	0.001	1	0%				
Copper	A	mg/L	0.0003091	0.0015455		0	0	0.0005077	0.00135	0.00135	1	0%				N
Iron	A	mg/L	0.008189	0.040945		0	0	0.03614	0.00595	0.00595	5	0%				N
Lanthanum	A	mg/L	0.03526	0.1763		0	0	0.008116	0.000055	0.001	0.1	0%			182%	R
Lead	A	mg/L	0.0000342	0		0	0	0	0.00028	0.001	1	0%				
Magnesium	A	mg/L	2.65	13.25		0	0	13.53	0.0282	0.0282	50	0%			2%	
Manganese	A	mg/L	0.009374	0.04687		0	0	0.04783	0.000475	0.001	1	0%			2%	
Mercury	A	mg/L	0.00001436	0		0	0	0	0.0008	0.001	0.002	0%				
Molybdenum	A	mg/L	0.002852	0.01426		0	0	0.01395	0.00025	0.001	0.1	0%			2%	
Nickel	A	mg/L	0.0001717	0		0	0	0	0.00315	0.00315	1	0%				
Potassium	A	mg/L	0.6747	3.3735		0	0	3.701	0.40695	0.40695	50	0%				N
Selenium	A	mg/L	0.00001524	0		0	0	0	0.00165	0.00165	1	0%				
Silicon	A	mg/L	1.514	7.57		0	0	7.806	0.06115	0.1	0.4	0%			3%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980162	B22010411-001	ICPMS-6020-W-	SD		1/14/2022 4:27:3	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	-0.00006598	0		0	0	0	0.0001	0.001	0.04	0%				
Sodium	A	mg/L	9.123	45.615		0	0	45.32	0.10855	0.10855	50	0%			1%	
Strontium	A	mg/L	0.01601	0.08005		0	0	0.08108	0.0007	0.001	1	0%			1%	
Thallium	A	mg/L	-2.554E-06	0		0	0	0	0.000205	0.001	1	0%				
Thorium	A	mg/L	8.864E-07	0		0	0	0	0.00305	0.00305	1	0%				
Tin	A	mg/L	0.00004658	0		0	0	0	0.0066	0.0066	0.1	0%				
Titanium	A	mg/L	-0.0001334	0		0	0	0.0002453	0.00047	0.001	1	0%				
Uranium	A	mg/L	0.000001	0		0	0	0	0.00026	0.0003	1	0%				
Vanadium	A	mg/L	0.0002911	0		0	0	0	0.0065	0.0065	1	0%				
Zinc	A	mg/L	0.0015	0		0	0	0	0.01365	0.01365	1	0%				
Iron, Ferrous	C	mg/L	0.008189	0.040945		0	0	0.03614	0.00595	0.00595	5	0%				N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980163	B22010411-001	ICPMS-6020-W-	MS		1/14/2022 4:33:4	1.03	R373222		1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04655	0.0479465		0.05	0.001497	0	0.0008858	0.001	1	93%	75	125	0%	
Antimony	A	mg/L	0.03942	0.0406026		0.05	0	0	0.0004326	0.001	0.1	81%	75	125	0%	
Arsenic	A	mg/L	0.04911	0.0505833		0.05	0	0	0.0001957	0.001	1	101%	75	125	0%	
Barium	A	mg/L	0.049	0.05047		0.05	0.002022	0	4.326E-05	0.001	1	97%	75	125	0%	
Beryllium	A	mg/L	0.04754	0.0489662		0.05	0	0	0.0001236	0.001	1	98%	75	125	0%	
Boron	A	mg/L	0.1241	0.127823		0.05	0.0731	0	0.0057783	0.0057783	1	109%	75	125	0%	
Cadmium	A	mg/L	0.04647	0.0478641		0.05	5.373E-05	0	2.575E-05	0.001	1	96%	75	125	0%	
Calcium	A	mg/L	55.69	57.3607		50	12.69	0	0.0215476	0.0215476	50	89%	75	125	0%	E
Cerium	A	mg/L	0.257	0.26471		0.05	1.622E-05	0	1.236E-05	0.001	0.1	529%	75	125	0%	SE
Chromium	A	mg/L	0.04908	0.0505524		0.05	0	0	0.0001854	0.001	1	101%	75	125	0%	
Cobalt	A	mg/L	0.04513	0.0464839		0.05	0	0	4.326E-05	0.001	1	93%	75	125	0%	
Copper	A	mg/L	0.05271	0.0542913		0.05	0.0005077	0	0.0002781	0.001	1	108%	75	125	0%	
Iron	A	mg/L	4.81	4.9543		5.05	0.03614	0	0.0012257	0.0012257	5	97%	75	125	0%	
Lanthanum	A	mg/L	0.09752	0.1004456		0.05	0.008116	0	1.133E-05	0.001	0.1	185%	75	125	0%	S
Lead	A	mg/L	0.04825	0.0496975		0.05	0	0	5.768E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	61.76	63.6128		50	13.53	0	0.0058092	0.0058092	50	100%	75	125	0%	E
Manganese	A	mg/L	0.09386	0.0966758		0.05	0.04783	0	9.785E-05	0.001	1	98%	75	125	0%	
Mercury	A	mg/L	0.005281	0.00543943		0.001	0	0	0.0001648	0.001	0.002	544%	75	125	0%	SE
Molybdenum	A	mg/L	0.05885	0.0606155		0.05	0.01395	0	0.0000515	0.001	0.1	93%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980163	B22010411-001	ICPMS-6020-W-	MS		1/14/2022 4:33:4	1.03	R373222		1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	A	mg/L	0.05066	0.0521798		0.05	0	0	0.0006489	0.001	1	104%	75	125	0%	
Potassium	A	mg/L	47.97	49.4091		50	3.701	0	0.0838317	0.0838317	50	91%	75	125	0%	
Selenium	A	mg/L	0.04763	0.0490589		0.05	0	0	0.0003399	0.001	1	98%	75	125	0%	
Silicon	A	mg/L	7.753	7.98559		0.2	7.806	0	0.0125969	0.1	0.4		75	125	0%	AE
Silver	A	mg/L	0.01862	0.0191786		0.02	0	0	0.0000206	0.001	0.04	96%	75	125	0%	
Sodium	A	mg/L	90.93	93.6579		50	45.32	0	0.0223613	0.0223613	50	97%	75	125	0%	E
Strontium	A	mg/L	0.1275	0.131325		0.05	0.08108	0	0.0001442	0.001	1	100%	75	125	0%	
Thallium	A	mg/L	0.04592	0.0472976		0.05	0	0	4.223E-05	0.001	1	95%	75	125	0%	
Thorium	A	mg/L	0.04714	0.0485542		0.05	0	0	0.0006283	0.001	1	97%	75	125	0%	
Tin	A	mg/L	0.04558	0.0469474		0.05	0	0	0.0013596	0.0013596	0.1	94%	75	125	0%	
Titanium	A	mg/L	0.04875	0.0502125		0.05	0.0002453	0	9.682E-05	0.001	1	100%	75	125	0%	
Uranium	A	mg/L	0.04645	0.0478435		0.05	0	0	5.356E-05	0.0003	1	96%	75	125	0%	
Vanadium	A	mg/L	0.04895	0.0504185		0.05	0	0	0.001339	0.001339	1	101%	75	125	0%	
Zinc	A	mg/L	0.05149	0.0530347		0.05	0	0	0.0028119	0.0028119	1	106%	75	125	0%	
Iron, Ferrous	C	mg/L	4.81	4.9543		0	0.03614	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
14980164	B22010411-001	ICPMS-6020-W-	MSD		1/14/2022 4:40:0	1.03	R373222		1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04684	0.0482452		0.05	0.001497	0.0479465	0.0008858	0.001	1	93%	75	125	1%	
Antimony	A	mg/L	0.04145	0.0426935		0.05	0	0.0406026	0.0004326	0.001	0.1	85%	75	125	5%	
Arsenic	A	mg/L	0.04908	0.0505524		0.05	0	0.0505833	0.0001957	0.001	1	101%	75	125	0%	
Barium	A	mg/L	0.04976	0.0512528		0.05	0.002022	0.05047	4.326E-05	0.001	1	98%	75	125	2%	
Beryllium	A	mg/L	0.04639	0.0477817		0.05	0	0.0489662	0.0001236	0.001	1	96%	75	125	2%	
Boron	A	mg/L	0.1205	0.124115		0.05	0.0731	0.127823	0.0057783	0.0057783	1	102%	75	125	3%	
Cadmium	A	mg/L	0.04741	0.0488323		0.05	5.373E-05	0.0478641	2.575E-05	0.001	1	98%	75	125	2%	
Calcium	A	mg/L	57.34	59.0602		50	12.69	57.3607	0.0215476	0.0215476	50	93%	75	125	3%	E
Cerium	A	mg/L	0.2568	0.264504		0.05	1.622E-05	0.26471	1.236E-05	0.001	0.1	529%	75	125	0%	SE
Chromium	A	mg/L	0.04839	0.0498417		0.05	0	0.0505524	0.0001854	0.001	1	100%	75	125	1%	
Cobalt	A	mg/L	0.04577	0.0471431		0.05	0	0.0464839	4.326E-05	0.001	1	94%	75	125	1%	
Copper	A	mg/L	0.05182	0.0533746		0.05	0.0005077	0.0542913	0.0002781	0.001	1	106%	75	125	2%	
Iron	A	mg/L	4.898	5.04494		5.05	0.03614	4.9543	0.0012257	0.0012257	5	99%	75	125	2%	
Lanthanum	A	mg/L	0.6595	0.679285		0.05	0.008116	0.1004456	1.133E-05	0.001	0.1	1342%	75	125	148%	SRE
Lead	A	mg/L	0.04901	0.0504803		0.05	0	0.0496975	5.768E-05	0.001	1	101%	88	115	2%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980164	B22010411-001	ICPMS-6020-W-	MSD		1/14/2022 4:40:0	1.03	R373222		1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	62.78	64.6634		50	13.53	63.6128	0.0058092	0.0058092	50	102%	75	125	2%	E
Manganese	A	mg/L	0.09353	0.0963359		0.05	0.04783	0.0966758	9.785E-05	0.001	1	97%	75	125	0%	
Mercury	A	mg/L	0.005599	0.00576697		0.001	0	0.0054394	0.0001648	0.001	0.002	577%	75	125	6%	SE
Molybdenum	A	mg/L	0.06075	0.0625725		0.05	0.01395	0.0606155	0.0000515	0.001	0.1	97%	75	125	3%	
Nickel	A	mg/L	0.04922	0.0506966		0.05	0	0.0521798	0.0006489	0.001	1	101%	75	125	3%	
Potassium	A	mg/L	48.54	49.9962		50	3.701	49.4091	0.0838317	0.0838317	50	93%	75	125	1%	
Selenium	A	mg/L	0.04907	0.0505421		0.05	0	0.0490589	0.0003399	0.001	1	101%	75	125	3%	
Silicon	A	mg/L	7.648	7.87744		0.2	7.806	7.98559	0.0125969	0.1	0.4		75	125	1%	AE
Silver	A	mg/L	0.0189	0.019467		0.02	0	0.0191786	0.0000206	0.001	0.04	97%	75	125	1%	
Sodium	A	mg/L	90.27	92.9781		50	45.32	93.6579	0.0223613	0.0223613	50	95%	75	125	1%	E
Strontium	A	mg/L	0.127	0.13081		0.05	0.08108	0.131325	0.0001442	0.001	1	99%	75	125	0%	
Thallium	A	mg/L	0.04758	0.0490074		0.05	0	0.0472976	4.223E-05	0.001	1	98%	75	125	4%	
Thorium	A	mg/L	0.04888	0.0503464		0.05	0	0.0485542	0.0006283	0.001	1	101%	75	125	4%	
Tin	A	mg/L	0.04664	0.0480392		0.05	0	0.0469474	0.0013596	0.0013596	0.1	96%	75	125	2%	
Titanium	A	mg/L	0.04986	0.0513558		0.05	0.0002453	0.0502125	9.682E-05	0.001	1	102%	75	125	2%	
Uranium	A	mg/L	0.04739	0.0488117		0.05	0	0.0478435	5.356E-05	0.0003	1	98%	75	125	2%	
Vanadium	A	mg/L	0.04807	0.0495121		0.05	0	0.0504185	0.001339	0.001339	1	99%	75	125	2%	
Zinc	A	mg/L	0.05137	0.0529111		0.05	0	0.0530347	0.0028119	0.0028119	1	106%	75	125	0%	
Iron, Ferrous	C	mg/L	4.898	5.04494		0	0.03614	4.9543	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
14980165	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 4:46:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00111	0.00111		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0006114	0.0006114		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.0001262	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-5.504E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007646	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-7.412E-06	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-7.409E-07	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.00001509	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-4.955E-07	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.000003791	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001124	0.0001124		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
14980165	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 4:46:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0.00002727	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01178	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	6.857E-08	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.00001076	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00008475	0.00008475		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002168	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0001203	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000003238	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.000166	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0002331	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0002331	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.003877	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.02131	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	0.001763	0.001763		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
14980166	MB-162926	ICPMS-6020-W-	MBLK		1/14/2022 4:52:3	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00363	0		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	
Antimony	A	mg/L	0.0004963	0.0004963		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.001005	0.001005		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00006722	0		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007755	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	
Boron	A	mg/L	0.003969	0		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000002478	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	
Calcium	A	mg/L	0.01642	0		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	
Cerium	A	mg/L	0.00001641	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.0004197	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00006517	0		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	0.0004795	0		0	0	0	0.0008747	0.00198	1	0%	0	0	0%	
Iron	A	mg/L	0.001335	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	
Lanthanum	A	mg/L	0.01971	0.01971		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.00005673	0		0	0	0	7.716E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	0.00221	0		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980166	MB-162926	ICPMS-6020-W-	MBLK		1/14/2022 4:52:3	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.0001914	0		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00005245	0		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00007897	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	
Potassium	A	mg/L	0.00399	0		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	
Selenium	A	mg/L	0.00006004	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.01082	0		0	0	0	0.0422089	0.0053212	0.4	0%	0	0	0%	
Silver	A	mg/L	-0.0000653	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.06247	0		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	
Strontium	A	mg/L	0.00004169	0		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001069	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00005843	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	
Tin	A	mg/L	0.0004615	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00009125	0		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000001111	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.009442	0.009442		0	0	0	0.0039127	0.0021085	1	0%	0	0	0%	
Zinc	A	mg/L	0.000288	0		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	
Silica	C	mg/L	0.023146144	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	0.023146144	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
14980167	LCS4-162926	ICPMS-6020-W-	LCS4		1/14/2022 4:58:4	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.4778	0.4778		0.5	0	0	0.0038747	0.0031975	1	96%	80	120	0%	
Antimony	A	mg/L	0.1012	0.1012		0.1	0	0	0.0002799	0.001	0.1	101%	80	120	0%	
Arsenic	A	mg/L	0.1014	0.1014		0.1	0	0	0.0003412	0.001	1	101%	80	120	0%	
Barium	A	mg/L	0.0945	0.0945		0.1	0	0	0.0002682	0.001	1	94%	80	120	0%	
Beryllium	A	mg/L	0.05091	0.05091		0.05	0	0	0.0001071	0.01	1	102%	80	120	0%	
Boron	A	mg/L	0.1134	0.1134		0.1	0	0	0.0203802	0.01467	1	113%	80	120	0%	
Cadmium	A	mg/L	0.05457	0.05457		0.05	0	0	1.821E-05	0.005	1	109%	80	120	0%	
Calcium	A	mg/L	4.444	4.444		5	0	0	0.0372936	0.1103481	50	89%	80	120	0%	
Cerium	A	mg/L	0.5644	0.5644		0.1	0	0	2.738E-05	0.001	0.1	564%	80	120	0%	S
Chromium	A	mg/L	0.1036	0.1036		0.1	0	0	0.0015375	0.0015375	1	104%	80	120	0%	
Cobalt	A	mg/L	0.09125	0.09125		0.1	0	0	9.541E-05	0.001	1	91%	80	120	0%	
Copper	A	mg/L	0.1154	0.1154		0.1	0	0	0.0008747	0.00198	1	115%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980167	LCS4-162926	ICPMS-6020-W-	LCS4		1/14/2022 4:58:4	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	A	mg/L	0.4826	0.4826		0.5	0	0	0.007424	0.00513	5	97%	80	120	0%	
Lanthanum	A	mg/L	2139	2139		0.1	0	0	0.000055	0.001	0.1	2139000%	80	120	0%	S
Lead	A	mg/L	0.1008	0.1008		0.1	0	0	7.716E-05	0.001	1	101%	88	115	0%	
Magnesium	A	mg/L	5.514	5.514		5	0	0	0.0104254	0.0081522	50	110%	80	120	0%	
Manganese	A	mg/L	0.4953	0.4953		0.5	0	0	0.0005399	0.001	1	99%	80	120	0%	
Molybdenum	A	mg/L	0.09258	0.09258		0.1	0	0	0.0001763	0.001	0.1	93%	80	120	0%	
Nickel	A	mg/L	0.1109	0.1109		0.1	0	0	0.0002288	0.0024200	1	111%	80	120	0%	
Potassium	A	mg/L	4.361	4.361		5	0	0	0.0765619	0.0261205	50	87%	80	120	0%	
Selenium	A	mg/L	0.09893	0.09893		0.1	0	0	0.0001357	0.001	1	99%	80	120	0%	
Silicon	A	mg/L	0.9491	0.9491		1	0	0	0.0422089	0.0053212	0.4	95%	80	120	0%	
Silver	A	mg/L	0.009493	0.009493		0.01	0	0	4.281E-05	0.001	0.04	95%	80	120	0%	
Sodium	A	mg/L	5.645	5.645		5	0	0	0.1019461	0.7330269	50	113%	80	120	0%	
Strontium	A	mg/L	0.09914	0.09914		0.1	0	0	0.0002433	0.001	1	99%	80	120	0%	
Thallium	A	mg/L	0.09828	0.09828		0.1	0	0	0.0001114	0.001	1	98%	80	120	0%	
Thorium	A	mg/L	0.09715	0.09715		0.1	0	0	0.0003796	0.00415	1	97%	80	120	0%	
Tin	A	mg/L	0.1018	0.1018		0.1	0	0	0.0018932	0.0011175	0.1	102%	80	120	0%	
Titanium	A	mg/L	0.087	0.087		0.1	0	0	0.0005733	0.001	1	87%	80	120	0%	
Uranium	A	mg/L	0.09624	0.09624		0.1	0	0	1.699E-05	0.0003	1	96%	80	120	0%	
Vanadium	A	mg/L	0.1071	0.1071		0.1	0	0	0.0039127	0.0021085	1	107%	80	120	0%	
Zinc	A	mg/L	0.1063	0.1063		0.1	0	0	0.0011617	0.0065544	1	106%	80	120	0%	
Silica	C	mg/L	2.03031472	2.03031472		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	2.03031472	2.03031472		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
14980168	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 5:04:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00101	0.00101		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001565	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.000076	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-3.607E-07	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008614	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-0.0000114	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0.00003898	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-8.161E-06	0		0	0	0	0.000042	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
14980168	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 5:04:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.000003177	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.000004201	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001886	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.00002084	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01221	0		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000002289	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.000004882	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00029	0.00029		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002625	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0002481	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000001991	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	-0.002154	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.000235	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.000235	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.002235	0		0	0	0	0.00564	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	-0.02564	0		0	0	0	0.08139	0.08139	50	0%	0	0	0%	L
Tin	B	mg/L	0.001821	0.001821		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
14980169	B22010507-001	ICPMS-6020-W-	SAMP		1/14/2022 5:11:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003249	0.003249		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00009797	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.000906	0.000906		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.01005	0.01005		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008622	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00005122	0.00005122		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.0001502	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00008509	0.00008509		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00001161	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.004351	0.004351		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00338	0.00338		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0003701	0.0003701		0	0	0	0.00033	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006197	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
14980169	B22010507-001	ICPMS-6020-W-	SAMP		1/14/2022 5:11:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	0.289	0.289		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001113	0.0001113		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.000002288	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000196	0.000196		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	38.47	38.47		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.01737	0.01737		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.01737	0.01737		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	37.86	37.86		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Potassium	B	mg/L	2.799	2.799		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0000982	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
14980170	CCV	ICPMS-6020-W-	CCV		1/14/2022 5:17:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04924	0.04924		0.05	0	0	0.00086	0.001	1	98%	90	110	0%	
Antimony	A	mg/L	0.05119	0.05119		0.05	0	0	0.00042	0.001	0.1	102%	90	110	0%	
Arsenic	A	mg/L	0.05257	0.05257		0.05	0	0	0.00019	0.001	1	105%	90	110	0%	
Barium	A	mg/L	0.05058	0.05058		0.05	0	0	0.000042	0.001	1	101%	90	110	0%	
Beryllium	A	mg/L	0.05248	0.05248		0.05	0	0	0.00012	0.001	1	105%	90	110	0%	
Boron	A	mg/L	0.05836	0.05836		0.05	0	0	0.00561	0.00561	1	117%	90	110	0%	S
Cadmium	A	mg/L	0.05155	0.05155		0.05	0	0	0.000025	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	11.33	11.33		12.5	0	0	0.02092	0.02092	50	91%	90	110	0%	
Cerium	A	mg/L	0.2716	0.2716		0.05	0	0	0.000012	0.001	0.1	543%	90	110	0%	S
Chromium	A	mg/L	0.05237	0.05237		0.05	0	0	0.00018	0.001	1	105%	90	110	0%	
Cobalt	A	mg/L	0.04986	0.04986		0.05	0	0	0.000042	0.001	1	100%	90	110	0%	
Copper	A	mg/L	0.05814	0.05814		0.05	0	0	0.00027	0.001	1	116%	90	110	0%	S
Iron	A	mg/L	1.283	1.283		1.3	0	0	0.00119	0.00119	5	99%	90	110	0%	
Lanthanum	A	mg/L	0.03534	0.03534		0.05	0	0	0.000011	0.001	0.1	71%	90	110	0%	S
Lead	A	mg/L	0.05149	0.05149		0.05	0	0	0.000056	0.001	1	103%	90	110	0%	
Magnesium	A	mg/L	13.25	13.25		12.5	0	0	0.00564	0.00564	50	106%	90	110	0%	
Manganese	A	mg/L	0.05116	0.05116		0.05	0	0	0.000095	0.001	1	102%	90	110	0%	
Mercury	A	mg/L	0.005351	0.005351		0.001	0	0	0.00016	0.001	0.002	535%	90	110	0%	S
Molybdenum	A	mg/L	0.04861	0.04861		0.05	0	0	0.00005	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.05669	0.05669		0.05	0	0	0.00063	0.001	1	113%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980170	CCV	ICPMS-6020-W-	CCV		1/14/2022 5:17:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Potassium	A	mg/L	11.45	11.45		12.5	0	0	0.08139	0.08139	50	92%	90	110	0%	
Selenium	A	mg/L	0.05222	0.05222		0.05	0	0	0.00033	0.001	1	104%	90	110	0%	
Silicon	A	mg/L	0.1925	0.1925		0.2	0	0	0.01223	0.1	0.4	96%	90	110	0%	
Silver	A	mg/L	0.01979	0.01979		0.02	0	0	0.00002	0.001	0.04	99%	90	110	0%	
Sodium	A	mg/L	13.47	13.47		12.5	0	0	0.02171	0.02171	50	108%	90	110	0%	
Strontium	A	mg/L	0.05147	0.05147		0.05	0	0	0.00014	0.001	1	103%	90	110	0%	
Thallium	A	mg/L	0.04989	0.04989		0.05	0	0	0.000041	0.001	1	100%	90	110	0%	
Thorium	A	mg/L	0.05075	0.05075		0.05	0	0	0.00061	0.001	1	101%	90	110	0%	
Tin	A	mg/L	0.05042	0.05042		0.05	0	0	0.00132	0.00132	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.04875	0.04875		0.05	0	0	0.000094	0.001	1	97%	90	110	0%	
Uranium	A	mg/L	0.04863	0.04863		0.05	0	0	0.000052	0.0003	1	97%	90	110	0%	
Vanadium	A	mg/L	0.05325	0.05325		0.05	0	0	0.0013	0.0013	1	106%	90	110	0%	
Zinc	A	mg/L	0.05617	0.05617		0.05	0	0	0.00273	0.00273	1	112%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.283	1.283		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
14980171	CCB	ICPMS-6020-W-	CCB		1/14/2022 5:23:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.000268	-0.000268		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00008909	0.00008909		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.00004951	-0.00004951		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-8.889E-06	-8.889E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00007693	-0.00007693		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001724	0.001724		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.000002519	0.000002519		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.00272	-0.00272		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	0.000009391	0.000009391		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002485	0.00002485		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-0.00001086	-0.00001086		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	-4.093E-06	-4.093E-06		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.0002871	0.0002871		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-0.006783	-0.006783		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-2.099E-06	-2.099E-06		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.0005585	0.0005585		0	0	0	0.00564	0.00564	50	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980171	CCB	ICPMS-6020-W-	CCB		1/14/2022 5:23:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	-7.246E-07	-7.246E-07		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00005344	0.00005344		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00001606	0.00001606		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.00005748	0.00005748		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.01376	-0.01376		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-0.00000648	-0.00000648		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01332	-0.01332		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.502E-06	-1.502E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.02914	0.02914		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	0.000004533	0.000004533		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002619	0.0002619		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001994	0.00001994		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	2.556E-07	2.556E-07		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0002362	-0.0002362		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00006773	0.00006773		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.0005694	0.0005694		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-0.00002507	-0.00002507		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0002871	0.0002871		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
14980172	B22010507-001	ICPMS-6020-W-	SAMP		1/14/2022 5:29:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0001492	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Barium	A	mg/L	0.01094	0.01094		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007344	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0002027	0.0002027		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00007634	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.005286	0.005286		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.003662	0.003662		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0004628	0.0004628		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00004636	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.2908	0.2908		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001642	0.0001642		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.003927	0.003927		0	0	0	0.0005733	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
14980172	B22010507-001	ICPMS-6020-W-	SAMP		1/14/2022 5:29:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Uranium	A	mg/L	0.0002045	0.0002045		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Aluminum	B	mg/L	0.03868	0.03868		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	D
Calcium	B	mg/L	37.7	37.7		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001322	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU
Iron	B	mg/L	0.1411	0.1411		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	40.7	40.7		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Potassium	B	mg/L	2.711	2.711		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00007124	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0005153	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
14980173	B22010507-001	ICPMS-6020-W-	SD		1/14/2022 5:36:0	5	162926	1/14/2022 8:	0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.009973	0.049865		0	0	0.03868	0.0193736	0.0159875	1	0%	0	0		N
Antimony	A	mg/L	0.00004101	0		0	0	0	0.0013997	0.0049	0.1	0%	0	0		
Arsenic	A	mg/L	0.0005601	0.0028005		0	0	0.00285	0.0017061	0.0013383	1	0%	0	0		N
Barium	A	mg/L	0.002154	0.01077		0	0	0.01094	0.0013411	0.0012039	1	0%	0	0		N
Beryllium	A	mg/L	-0.00008521	0		0	0	0	0.0005353	0.01	1	0%	0	0		
Boron	A	mg/L	0.02022	0		0	0	0.09844	0.1019008	0.07335	1	0%	0	0		
Cadmium	A	mg/L	0.000006435	0		0	0	0	9.105E-05	0.005	1	0%	0	0		
Calcium	A	mg/L	6.94	34.7		0	0	37.7	0.1864681	0.5517403	50	0%	0	0	8%	
Cerium	A	mg/L	0.0000501	0.0002505		0	0	0.0002793	0.0001369	0.001	0.1	0%	0	0		N
Chromium	A	mg/L	0.0002792	0		0	0	0	0.0076875	0.0076875	1	0%	0	0		
Cobalt	A	mg/L	0.00003462	0		0	0	0.0002027	0.0004771	0.001	1	0%	0	0		
Copper	A	mg/L	0.0003749	0		0	0	0.001383	0.0043735	0.0099	1	0%	0	0		
Iron	A	mg/L	0.02675	0.13375		0	0	0.1411	0.0371198	0.02565	5	0%	0	0		N
Lanthanum	A	mg/L	0.08441	0.42205		0	0	0.4452	0.000275	0.001	0.1	0%	0	0	5%	
Lead	A	mg/L	0.00001974	0		0	0	0	0.0003858	0.001	1	0%	0	0		
Magnesium	A	mg/L	8.18	40.9		0	0	40.7	0.0521269	0.0407608	50	0%	0	0	0%	
Manganese	A	mg/L	0.00103	0.00515		0	0	0.005286	0.0026994	0.0010695	1	0%	0	0		N
Molybdenum	A	mg/L	0.0006931	0.0034655		0	0	0.003662	0.0008814	0.001	0.1	0%	0	0		N
Nickel	A	mg/L	0.0002169	0		0	0	0.0007891	0.0011441	0.0121000	1	0%	0	0		
Potassium	A	mg/L	0.5033	2.5165		0	0	2.711	0.3828097	0.1306027	50	0%	0	0		N
Selenium	A	mg/L	0.00008093	0		0	0	0.0004628	0.0006787	0.0029274	1	0%	0	0		

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980173	B22010507-001	ICPMS-6020-W- SD			1/14/2022 5:36:0	5	162926	1/14/2022 8:	0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	4.218	21.09		0	0	23.5	0.2110446	0.026606	0.4	0%	0	0	11%	R
Silver	A	mg/L	-0.00006099	0		0	0	0	0.0002141	0.001	0.04	0%	0	0		
Sodium	A	mg/L	20.82	104.1		0	0	102.8	0.5097304	3.6651346	50	0%	0	0	1%	
Strontium	A	mg/L	0.05676	0.2838		0	0	0.2908	0.0012164	0.001	1	0%	0	0	2%	
Thallium	A	mg/L	0.00008352	0		0	0	0.0001642	0.0005569	0.001	1	0%	0	0		
Thorium	A	mg/L	0.00001135	0		0	0	0	0.0018981	0.02075	1	0%	0	0		
Tin	A	mg/L	0.0001035	0		0	0	0	0.0094659	0.0055874	0.1	0%	0	0		
Titanium	A	mg/L	0.0006427	0.0032135		0	0	0.003927	0.0028666	0.001	1	0%	0	0		N
Uranium	A	mg/L	0.00003874	0.0001937		0	0	0.0002045	8.495E-05	0.0004224	1	0%	0	0		N
Vanadium	A	mg/L	0.005045	0.025225		0	0	0.02171	0.0195637	0.0105423	1	0%	0	0		N
Zinc	A	mg/L	0.001299	0.006495		0	0	0.003808	0.0058087	0.0327721	1	0%	0	0		N
Silica	C	mg/L	9.0231456	45.115728		0	0	0	0.4514666	0.0569155	5	0%	0	0		N
Silicon as SiO2	C	mg/L	9.0231456	45.115728		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
14980174	B22010507-001	ICPMS-6020-W- PDS1			1/14/2022 5:42:2	1.03	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.08252	0.0849956		0.0515	0.03868	0	0.003991	0.0032934	1	90%	75	125	0%	
Antimony	A	mg/L	0.04467	0.0460101		0.0515	0	0	0.0002883	0.0010094	0.1	89%	75	125	0%	
Arsenic	A	mg/L	0.05137	0.0529111		0.0515	0.00285	0	0.0003514	0.001	1	97%	75	125	0%	
Barium	A	mg/L	0.05888	0.0606464		0.0515	0.01094	0	0.0002763	0.001	1	97%	75	125	0%	
Beryllium	A	mg/L	0.04752	0.0489456		0.0515	0	0	0.0001103	0.01	1	95%	75	125	0%	
Boron	A	mg/L	0.1488	0.153264		0.0515	0.09844	0	0.0209916	0.0151101	1	106%	75	125	0%	
Cadmium	A	mg/L	0.0515	0.053045		0.0515	0	0	1.876E-05	0.005	1	103%	75	125	0%	
Calcium	A	mg/L	76.13	78.4139		51.5	37.7	0	0.0384124	0.1136585	50	79%	75	125	0%	
Cerium	A	mg/L	0.2621	0.269963		0.0515	0.0002793	0	2.820E-05	0.001	0.1	524%	75	125	0%	S
Chromium	A	mg/L	0.04788	0.0493164		0.0515	0	0	0.0015836	0.0015836	1	96%	75	125	0%	
Cobalt	A	mg/L	0.0412	0.042436		0.0515	0.0002027	0	9.827E-05	0.001	1	82%	75	125	0%	
Copper	A	mg/L	0.05301	0.0546003		0.0515	0.001383	0	0.0009009	0.0020394	1	103%	75	125	0%	
Iron	A	mg/L	4.631	4.76993		5.15	0.1411	0	0.0076467	0.0052839	5	90%	75	125	0%	
Lanthanum	A	mg/L	0.6324	0.651372		0.0515	0.4452	0	5.665E-05	0.001	0.1		75	125	0%	A
Lead	A	mg/L	0.0487	0.050161		0.0515	0	0	7.947E-05	0.001	1	97%	80	120	0%	
Magnesium	A	mg/L	87.72	90.3516		51.5	40.7	0	0.0107381	0.0083967	50	96%	75	125	0%	
Manganese	A	mg/L	0.05072	0.0522416		0.0515	0.005286	0	0.0005561	0.001	1	91%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980174	B22010507-001	ICPMS-6020-W-	PDS1		1/14/2022 5:42:2	1.03	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Molybdenum	A	mg/L	0.04842	0.0498726		0.0515	0.003662	0	0.0001816	0.001	0.1	90%	75	125	0%	
Nickel	A	mg/L	0.05042	0.0519326		0.0515	0.0007891	0	0.0002357	0.0024926	1	99%	75	125	0%	
Potassium	A	mg/L	44.73	46.0719		51.5	2.711	0	0.0788588	0.0269042	50	84%	75	125	0%	
Selenium	A	mg/L	0.04681	0.0482143		0.0515	0.0004628	0	0.0001398	0.001	1	93%	75	125	0%	
Silicon	A	mg/L	22.72	23.4016		0.206	23.5	0	0.0434752	0.0054808	0.4		0	0	0%	A
Silver	A	mg/L	0.01878	0.0193434		0.0206	0	0	4.409E-05	0.001	0.04	94%	75	125	0%	
Sodium	A	mg/L	147.3	151.719		51.5	102.8	0	0.1050045	0.7550177	50	95%	75	125	0%	
Strontium	A	mg/L	0.3238	0.333514		0.0515	0.2908	0	0.0002506	0.001	1		75	125	0%	A
Thallium	A	mg/L	0.04883	0.0502949		0.0515	0.0001642	0	0.0001147	0.001	1	97%	75	125	0%	
Thorium	A	mg/L	0.04845	0.0499035		0.0515	0	0	0.000391	0.0042745	1	97%	75	125	0%	
Tin	A	mg/L	0.04796	0.0493988		0.0515	0	0	0.00195	0.001151	0.1	96%	75	125	0%	
Titanium	A	mg/L	0.04706	0.0484718		0.0515	0.003927	0	0.0005905	0.001	1	86%	75	125	0%	
Uranium	A	mg/L	0.04744	0.0488632		0.0515	0.0002045	0	1.75E-05	0.0003	1	94%	75	125	0%	
Vanadium	A	mg/L	0.07258	0.0747574		0.0515	0.02171	0	0.0040301	0.0021717	1	103%	75	125	0%	
Zinc	A	mg/L	0.05216	0.0537248		0.0515	0.003808	0	0.0011966	0.0067511	1	97%	75	125	0%	
Silica	C	mg/L	48.602624	50.06070272		0	0	0	0.0930021	0.0117246	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	48.602624	50.06070272		0.0515	0	0	0.0930021	0.0117246	5	97205%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980175	B22010507-001	ICPMS-6020-W-	MS4		1/14/2022 5:48:3	1	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.5122	0.5122		0.5	0.03868	0	0.0038747	0.0031975	1	95%	75	125	0%	
Antimony	A	mg/L	0.1043	0.1043		0.1	0	0	0.0002799	0.001	0.1	104%	75	125	0%	
Arsenic	A	mg/L	0.1035	0.1035		0.1	0.00285	0	0.0003412	0.001	1	101%	75	125	0%	
Barium	A	mg/L	0.1075	0.1075		0.1	0.01094	0	0.0002682	0.001	1	97%	75	125	0%	
Beryllium	A	mg/L	0.04978	0.04978		0.05	0	0	0.0001071	0.01	1	100%	75	125	0%	
Boron	A	mg/L	0.2035	0.2035		0.1	0.09844	0	0.0203802	0.01467	1	105%	75	125	0%	
Cadmium	A	mg/L	0.05384	0.05384		0.05	0	0	1.821E-05	0.005	1	108%	75	125	0%	
Calcium	A	mg/L	41.66	41.66		5	37.7	0	0.0372936	0.1103481	50		75	125	0%	A
Cerium	A	mg/L	0.5499	0.5499		0.1	0.0002793	0	2.738E-05	0.001	0.1	550%	75	125	0%	S
Chromium	A	mg/L	0.1034	0.1034		0.1	0	0	0.0015375	0.0015375	1	103%	75	125	0%	
Cobalt	A	mg/L	0.09122	0.09122		0.1	0.0002027	0	9.541E-05	0.001	1	91%	75	125	0%	
Copper	A	mg/L	0.1111	0.1111		0.1	0.001383	0	0.0008747	0.00198	1	110%	75	125	0%	
Iron	A	mg/L	0.6294	0.6294		0.5	0.1411	0	0.007424	0.00513	5	98%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980175	B22010507-001	ICPMS-6020-W-	MS4		1/14/2022 5:48:3	1	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lanthanum	A	mg/L	2090	2090		0.1	0.4452	0	0.000055	0.001	0.1		75	125	0%	A
Lead	A	mg/L	0.1018	0.1018		0.1	0	0	7.716E-05	0.001	1	102%	88	115	0%	
Magnesium	A	mg/L	43.74	43.74		5	40.7	0	0.0104254	0.0081522	50		75	125	0%	A
Manganese	A	mg/L	0.4899	0.4899		0.5	0.005286	0	0.0005399	0.001	1	97%	75	125	0%	
Molybdenum	A	mg/L	0.09823	0.09823		0.1	0.003662	0	0.0001763	0.001	0.1	95%	75	125	0%	
Nickel	A	mg/L	0.1057	0.1057		0.1	0.0007891	0	0.0002288	0.0024200	1	105%	75	125	0%	
Potassium	A	mg/L	7.302	7.302		5	2.711	0	0.0765619	0.0261205	50	92%	75	125	0%	
Selenium	A	mg/L	0.1007	0.1007		0.1	0.0004628	0	0.0001357	0.001	1	100%	75	125	0%	
Silicon	A	mg/L	22.27	22.27		1	23.5	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009416	0.009416		0.01	0	0	4.281E-05	0.001	0.04	94%	75	125	0%	
Sodium	A	mg/L	103.6	103.6		5	102.8	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.3885	0.3885		0.1	0.2908	0	0.0002433	0.001	1	98%	75	125	0%	
Thallium	A	mg/L	0.09843	0.09843		0.1	0.0001642	0	0.0001114	0.001	1	98%	75	125	0%	
Thorium	A	mg/L	0.09935	0.09935		0.1	0	0	0.0003796	0.00415	1	99%	75	125	0%	
Tin	A	mg/L	0.1015	0.1015		0.1	0	0	0.0018932	0.0011175	0.1	101%	75	125	0%	
Titanium	A	mg/L	0.09143	0.09143		0.1	0.003927	0	0.0005733	0.001	1	88%	75	125	0%	
Uranium	A	mg/L	0.1003	0.1003		0.1	0.0002045	0	1.699E-05	0.0003	1	100%	75	125	0%	
Vanadium	A	mg/L	0.1211	0.1211		0.1	0.02171	0	0.0039127	0.0021085	1	99%	75	125	0%	
Zinc	A	mg/L	0.1071	0.1071		0.1	0.003808	0	0.0011617	0.0065544	1	103%	75	125	0%	
Silica	C	mg/L	47.639984	47.639984		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	47.639984	47.639984		2.14	0	0	0.0902933	0.0113831	5	2226%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980176	B22010507-001	ICPMS-6020-W-	MSD4		1/14/2022 5:54:5	1	162926	1/14/2022 8:	1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.5158	0.5158		0.5	0.03868	0.5122	0.0038747	0.0031975	1	95%	75	125	1%	
Antimony	A	mg/L	0.1033	0.1033		0.1	0	0.1043	0.0002799	0.001	0.1	103%	75	125	1%	
Arsenic	A	mg/L	0.1031	0.1031		0.1	0.00285	0.1035	0.0003412	0.001	1	100%	75	125	0%	
Barium	A	mg/L	0.1055	0.1055		0.1	0.01094	0.1075	0.0002682	0.001	1	95%	75	125	2%	
Beryllium	A	mg/L	0.04996	0.04996		0.05	0	0.04978	0.0001071	0.01	1	100%	75	125	0%	
Boron	A	mg/L	0.2089	0.2089		0.1	0.09844	0.2035	0.0203802	0.01467	1	110%	75	125	3%	
Cadmium	A	mg/L	0.05318	0.05318		0.05	0	0.05384	1.821E-05	0.005	1	106%	75	125	1%	
Calcium	A	mg/L	41.16	41.16		5	37.7	41.66	0.0372936	0.1103481	50		75	125	1%	A
Cerium	A	mg/L	0.5428	0.5428		0.1	0.0002793	0.5499	2.738E-05	0.001	0.1	543%	75	125	1%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980176	B22010507-001	ICPMS-6020-W-	MSD4		1/14/2022 5:54:5	1	162926	1/14/2022 8:	1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.1018	0.1018		0.1	0	0.1034	0.0015375	0.0015375	1	102%	75	125	2%	
Cobalt	A	mg/L	0.08929	0.08929		0.1	0.0002027	0.09122	9.541E-05	0.001	1	89%	75	125	2%	
Copper	A	mg/L	0.1102	0.1102		0.1	0.001383	0.1111	0.0008747	0.00198	1	109%	75	125	1%	
Iron	A	mg/L	0.6194	0.6194		0.5	0.1411	0.6294	0.007424	0.00513	5	96%	75	125	2%	
Lanthanum	A	mg/L	2111	2111		0.1	0.4452	2090	0.000055	0.001	0.1		75	125	1%	A
Lead	A	mg/L	0.1047	0.1047		0.1	0	0.1018	7.716E-05	0.001	1	105%	88	115	3%	
Magnesium	A	mg/L	45.03	45.03		5	40.7	43.74	0.0104254	0.0081522	50		75	125	3%	A
Manganese	A	mg/L	0.4861	0.4861		0.5	0.005286	0.4899	0.0005399	0.001	1	96%	75	125	1%	
Molybdenum	A	mg/L	0.09701	0.09701		0.1	0.003662	0.09823	0.0001763	0.001	0.1	93%	75	125	1%	
Nickel	A	mg/L	0.1046	0.1046		0.1	0.0007891	0.1057	0.0002288	0.0024200	1	104%	75	125	1%	
Potassium	A	mg/L	7.222	7.222		5	2.711	7.302	0.0765619	0.0261205	50	90%	75	125	1%	
Selenium	A	mg/L	0.1002	0.1002		0.1	0.0004628	0.1007	0.0001357	0.001	1	100%	75	125	0%	
Silicon	A	mg/L	24.14	24.14		1	23.5	22.27	0.0422089	0.0053212	0.4		75	125	8%	A
Silver	A	mg/L	0.009259	0.009259		0.01	0	0.009416	4.281E-05	0.001	0.04	93%	75	125	2%	
Sodium	A	mg/L	106.2	106.2		5	102.8	103.6	0.1019461	0.7330269	50		75	125	2%	A
Strontium	A	mg/L	0.3896	0.3896		0.1	0.2908	0.3885	0.0002433	0.001	1	99%	75	125	0%	
Thallium	A	mg/L	0.1003	0.1003		0.1	0.0001642	0.09843	0.0001114	0.001	1	100%	75	125	2%	
Thorium	A	mg/L	0.1011	0.1011		0.1	0	0.09935	0.0003796	0.00415	1	101%	75	125	2%	
Tin	A	mg/L	0.1048	0.1048		0.1	0	0.1015	0.0018932	0.0011175	0.1	105%	75	125	3%	
Titanium	A	mg/L	0.08969	0.08969		0.1	0.003927	0.09143	0.0005733	0.001	1	86%	75	125	2%	
Uranium	A	mg/L	0.0996	0.0996		0.1	0.0002045	0.1003	1.699E-05	0.0003	1	99%	75	125	1%	
Vanadium	A	mg/L	0.1212	0.1212		0.1	0.02171	0.1211	0.0039127	0.0021085	1	99%	75	125	0%	
Zinc	A	mg/L	0.1059	0.1059		0.1	0.003808	0.1071	0.0011617	0.0065544	1	102%	75	125	1%	
Silica	C	mg/L	51.640288	51.640288		0	0	47.639984	0.0902933	0.0113831	5	0%	0	0	8%	
Silicon as SiO2	C	mg/L	51.640288	51.640288		2.14	0	47.639984	0.0902933	0.0113831	5	2413%	75	125	8%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980177	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 6:01:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003639	0.003639		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001947	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.00004298	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00002215	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00006762	0		0	0	0	0.0001137	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
14980177	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 6:01:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00001009	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	-0.001056	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	-0.0002055	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.000014	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0.00002892	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.000004867	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Magnesium	A	mg/L	0.005065	0		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	L
Manganese	A	mg/L	0.000007461	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001809	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Potassium	A	mg/L	-0.01534	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	0.00001249	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.02013	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-4.187E-06	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0.03764	0.03764		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	D
Strontium	A	mg/L	-1.927E-06	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0005568	0.0005568		0	0	0	0.0001262	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002986	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.001722	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	-0.0002577	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002761	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Lithium	B	mg/L	0.0004505	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	0.00002892	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980178	B22010625-001	ICPMS-6020-W-	SAMP		1/14/2022 6:07:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001368	0.001368		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0003964	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.002952	0.002952		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.02491	0.02491		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009459	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000483	0.0000483		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.001711	0.001711		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0000327	0		0	0	0	0.000042	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
14980178	B22010625-001	ICPMS-6020-W-	SAMP		1/14/2022 6:07:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.00003847	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.0004741	0.0004741		0	0	0	0.000095	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.01037	0.01037		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.000711	0.000711		0	0	0	0.00033	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006375	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.2715	0.2715		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002316	0.0002316		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002154	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Calcium	B	mg/L	22.91	22.91		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.0003194	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003194	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	26.39	26.39		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Potassium	B	mg/L	7.548	7.548		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Tin	B	mg/L	0.0002181	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
14980179	B22010625-001	ICPMS-6020-W-	SAMP		1/14/2022 6:13:3	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0004928	0.0004928		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	J
Barium	A	mg/L	0.02678	0.02678		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.0000885	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0001183	0.0001183		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.000041	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.0008918	0.0008918		0	0	0	0.0005399	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.01186	0.01186		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0008585	0.0008585		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006136	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.2695	0.2695		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001895	0.0001895		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.001509	0.001509		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Calcium	B	mg/L	22.35	22.35		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.002391	0.002391		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.003262	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	LU
Magnesium	B	mg/L	27.03	27.03		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980179	B22010625-001	ICPMS-6020-W-	SAMP		1/14/2022 6:13:3	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Potassium	B	mg/L	7.367	7.367		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00006023	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0006889	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
14980180	B22010626-001	ICPMS-6020-W-	SAMP		1/14/2022 6:19:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003522	0.003522		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0002	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0008153	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.003303	0.003303		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009285	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003845	0.00003845		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.00163	0.00163		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00000833	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.0000195	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.00007477	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001172	0.0001172		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.00009683	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.00006239	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.06568	0.06568		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001108	0.0001108		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	-1.254E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001803	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	10.03	10.03		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.001421	0.001421		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.001421	0.001421		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.823	9.823		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Potassium	B	mg/L	2.232	2.232		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Sodium	B	mg/L	31.88	31.88		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.00003914	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
14980181	B22010626-001	ICPMS-6020-W-	SAMP		1/14/2022 6:25:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0006977	0.0006977		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	J
Barium	A	mg/L	0.005322	0.005322		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008179	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0004184	0.0004184		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.0001206	0.0001206		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.008359	0.008359		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002013	0.0002013		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0001891	0.0001891		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.0000192	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.06926	0.06926		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.000111	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.05742	0.05742		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0000227	0.0000227		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Aluminum	B	mg/L	0.7788	0.7788		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	D
Calcium	B	mg/L	9.779	9.779		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.003701	0.003701		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.6866	0.6866		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	10.4	10.4		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Potassium	B	mg/L	1.969	1.969		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Sodium	B	mg/L	33.63	33.63		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00004629	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0009022	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
14980182	B22010628-001	ICPMS-6020-W-	SAMP		1/14/2022 6:32:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003693	0.003693		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00007695	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0008412	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.005214	0.005214		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009794	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0001075	0.0001075		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.0005207	0.0005207		0	0	0	0.00018	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.00002758	0		0	0	0	0.000042	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
14980182	B22010628-001	ICPMS-6020-W-	SAMP		1/14/2022 6:32:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.000007536	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.008172	0.008172		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0005213	0.0005213		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0001907	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.00006135	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.1715	0.1715		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00007378	0.00007378		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	-1.953E-08	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001084	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	15.6	15.6		0	0	0	0.02092	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.00008679	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00008679	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	18.57	18.57		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Potassium	B	mg/L	3.693	3.693		0	0	0	0.08139	0.08139	50	0%	0	0	0%	D
Sodium	B	mg/L	40.17	40.17		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.00009178	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
14980183	CCV	ICPMS-6020-W-	CCV		1/14/2022 6:38:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04956	0.04956		0.05	0	0	0.00086	0.001	1	99%	90	110	0%	
Antimony	A	mg/L	0.05088	0.05088		0.05	0	0	0.00042	0.001	0.1	102%	90	110	0%	
Arsenic	A	mg/L	0.05245	0.05245		0.05	0	0	0.00019	0.001	1	105%	90	110	0%	
Barium	A	mg/L	0.05241	0.05241		0.05	0	0	0.000042	0.001	1	105%	90	110	0%	
Beryllium	A	mg/L	0.05207	0.05207		0.05	0	0	0.00012	0.001	1	104%	90	110	0%	
Boron	A	mg/L	0.05672	0.05672		0.05	0	0	0.00561	0.00561	1	113%	90	110	0%	S
Cadmium	A	mg/L	0.05109	0.05109		0.05	0	0	0.000025	0.001	1	102%	90	110	0%	
Calcium	A	mg/L	11.49	11.49		12.5	0	0	0.02092	0.02092	50	92%	90	110	0%	
Cerium	A	mg/L	0.2696	0.2696		0.05	0	0	0.000012	0.001	0.1	539%	90	110	0%	S
Chromium	A	mg/L	0.05323	0.05323		0.05	0	0	0.00018	0.001	1	106%	90	110	0%	
Cobalt	A	mg/L	0.04974	0.04974		0.05	0	0	0.000042	0.001	1	99%	90	110	0%	
Copper	A	mg/L	0.05796	0.05796		0.05	0	0	0.00027	0.001	1	116%	90	110	0%	S
Iron	A	mg/L	1.281	1.281		1.3	0	0	0.00119	0.00119	5	99%	90	110	0%	
Lanthanum	A	mg/L	0.04111	0.04111		0.05	0	0	0.000011	0.001	0.1	82%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980183	CCV	ICPMS-6020-W-	CCV		1/14/2022 6:38:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.05138	0.05138		0.05	0	0	0.000056	0.001	1	103%	90	110	0%	
Magnesium	A	mg/L	13.28	13.28		12.5	0	0	0.00564	0.00564	50	106%	90	110	0%	
Manganese	A	mg/L	0.05125	0.05125		0.05	0	0	0.000095	0.001	1	102%	90	110	0%	
Mercury	A	mg/L	0.005466	0.005466		0.001	0	0	0.00016	0.001	0.002	547%	90	110	0%	S
Molybdenum	A	mg/L	0.04893	0.04893		0.05	0	0	0.00005	0.001	0.1	98%	90	110	0%	
Nickel	A	mg/L	0.05515	0.05515		0.05	0	0	0.00063	0.001	1	110%	90	110	0%	
Potassium	A	mg/L	11.5	11.5		12.5	0	0	0.08139	0.08139	50	92%	90	110	0%	
Selenium	A	mg/L	0.05258	0.05258		0.05	0	0	0.00033	0.001	1	105%	90	110	0%	
Silicon	A	mg/L	0.1996	0.1996		0.2	0	0	0.01223	0.1	0.4	100%	90	110	0%	
Silver	A	mg/L	0.01962	0.01962		0.02	0	0	0.00002	0.001	0.04	98%	90	110	0%	
Sodium	A	mg/L	13.75	13.75		12.5	0	0	0.02171	0.02171	50	110%	90	110	0%	
Strontium	A	mg/L	0.0517	0.0517		0.05	0	0	0.00014	0.001	1	103%	90	110	0%	
Thallium	A	mg/L	0.04951	0.04951		0.05	0	0	0.000041	0.001	1	99%	90	110	0%	
Thorium	A	mg/L	0.05013	0.05013		0.05	0	0	0.00061	0.001	1	100%	90	110	0%	
Tin	A	mg/L	0.05079	0.05079		0.05	0	0	0.00132	0.00132	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.04878	0.04878		0.05	0	0	0.000094	0.001	1	98%	90	110	0%	
Uranium	A	mg/L	0.04888	0.04888		0.05	0	0	0.000052	0.0003	1	98%	90	110	0%	
Vanadium	A	mg/L	0.05387	0.05387		0.05	0	0	0.0013	0.0013	1	108%	90	110	0%	
Zinc	A	mg/L	0.05548	0.05548		0.05	0	0	0.00273	0.00273	1	111%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.281	1.281		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
14980184	CCB	ICPMS-6020-W-	CCB		1/14/2022 6:44:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002093	0.0002093		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00007787	0.00007787		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.00005099	0.00005099		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-5.102E-06	-5.102E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00008296	-0.00008296		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001792	0.001792		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.000004307	0.000004307		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	-0.003076	-0.003076		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	0.00000311	0.00000311		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.000078	-0.000078		0	0	0	0.00018	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
14980184	CCB	ICPMS-6020-W-	CCB		1/14/2022 6:44:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cobalt	A	mg/L	-6.186E-06	-6.186E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00002426	0.00002426		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.0002132	0.0002132		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	-0.009868	-0.009868		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-5.718E-06	-5.718E-06		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.0006968	0.0006968		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-0.0000182	-0.0000182		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00002248	0.00002248		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002329	0.00002329		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.00003739	0.00003739		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	-0.01703	-0.01703		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00002241	0.00002241		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01029	-0.01029		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-4.258E-06	-4.258E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.0348	0.0348		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	-8.174E-07	-8.174E-07		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0003356	0.0003356		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001435	0.00001435		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-0.0000283	-0.0000283		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0002561	-0.0002561		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002119	0.000002119		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.001638	0.001638		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.00001435	0.00001435		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0002132	0.0002132		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
14980185	B22010628-001	ICPMS-6020-W-	SAMP		1/14/2022 6:50:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0001502	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0009469	0.0009469		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.008384	0.008384		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007439	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0005065	0.0005065		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.0001267	0.0001267		0	0	0	7.716E-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
14980185	B22010628-001	ICPMS-6020-W-	SAMP		1/14/2022 6:50:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.03929	0.03929		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0005959	0.0005959		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0003005	0.0003005		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00004871	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1868	0.1868		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001927	0.0001927		0	0	0	0.0001114	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.01437	0.01437		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001768	0.00001768		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Aluminum	B	mg/L	0.3194	0.3194		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	D
Chromium	B	mg/L	0.001965	0.001965		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.2058	0.2058		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	20.25	20.25		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	42.73	42.73		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00006424	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0004745	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
14980186	B22010629-001	ICPMS-6020-W-	SAMP		1/14/2022 6:57:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.003171	0.003171		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00003234	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0008094	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.002389	0.002389		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008764	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003784	0.00003784		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	-0.0002903	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001538	0.0001538		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00001129	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.3557	0.3557		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.005955	0.005955		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	-0.00003154	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.0000636	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.143	0.143		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001058	0.0001058		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
14980186	B22010629-001	ICPMS-6020-W-	SAMP		1/14/2022 6:57:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	0.000001089	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00000571	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	0.09458	0.09458		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.09458	0.09458		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	18.86	18.86		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	40.77	40.77		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0001129	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
14980187	B22010629-001	ICPMS-6020-W-	SAMP		1/14/2022 7:03:2	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00006079	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0009132	0.0009132		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.002458	0.002458		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00007982	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.000227	0.000227		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00001866	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.3417	0.3417		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.006663	0.006663		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.00008099	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	U
Silver	A	mg/L	-0.00006332	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1382	0.1382		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009581	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001153	0.001153		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000005985	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	U
Chromium	B	mg/L	0.0006178	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU
Iron	B	mg/L	0.1273	0.1273		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	19.19	19.19		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	41.88	41.88		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00002851	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0002889	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
14980188	B22010633-001	ICPMS-6020-W-	SAMP		1/14/2022 7:09:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.002586	0.002586		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.000444	0.000444		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	-0.0008942	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.004564	0.004564		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009176	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000036	0.000036		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.001801	0.001801		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-2.172E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00003649	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.000055	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001406	0.0001406		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0001414	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.00006247	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.07401	0.07401		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0000624	0.0000624		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	-1.186E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0001787	0.0001787		0	0	0	0.000052	0.0003	1	0%	0	0	0%	J
Iron	B	mg/L	0.0002539	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0002539	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	11.79	11.79		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	36.9	36.9		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0001015	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
14980189	B22010633-001	ICPMS-6020-W-	SAMP		1/14/2022 7:15:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0005152	0.0005152		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.0008677	0.0008677		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.006671	0.006671		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008547	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0001357	0.0001357		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.0002328	0.0002328		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.003213	0.003213		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003421	0.0003421		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980189	B22010633-001	ICPMS-6020-W-	SAMP		1/14/2022 7:15:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0.0002577	0.0002577		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-3.897E-06	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.07345	0.07345		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00006465	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.003863	0.003863		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001551	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	U
Aluminum	B	mg/L	0.0466	0.0466		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	D
Chromium	B	mg/L	0.003382	0.003382		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.06731	0.06731		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	12.44	12.44		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	38.78	38.78		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00002265	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0003914	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
14980190	B22010637-001	ICPMS-6020-W-	SAMP		1/14/2022 7:22:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001807	0.001807		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002509	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0009027	0		0	0	0	0.00019	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.001911	0.001911		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00009338	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000339	0.0000339		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.002815	0.002815		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-0.00001099	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.0000366	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.0003697	0.0003697		0	0	0	0.000095	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0009029	0.0009029		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0001235	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.00006297	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.05586	0.05586		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003979	0		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	-1.976E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000004559	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
14980190	B22010637-001	ICPMS-6020-W-	SAMP		1/14/2022 7:22:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	B	mg/L	0.0005612	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0005612	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	8.8	8.8		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	37.3	37.3		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	-0.0001138	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
14980191	B22010637-001	ICPMS-6020-W-	SAMP		1/14/2022 7:28:1	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00005021	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0007227	0.0007227		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.001983	0.001983		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-0.00008065	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0001163	0.0001163		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.0001137	0.0001137		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.00157	0.00157		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0009795	0.0009795		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0002309	0.0002309		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006414	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.05411	0.05411		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00005461	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001411	0.001411		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000005951	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	U
Chromium	B	mg/L	0.003631	0.003631		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.02815	0.02815		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	9.289	9.289		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Sodium	B	mg/L	39.13	39.13		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00001917	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0002911	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				
14980192	CCV	ICPMS-6020-W-	CCV		1/14/2022 7:34:3	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04786	0.04786		0.05	0	0	0.0006966	0.001	1	96%	90	110	0%	
Antimony	A	mg/L	0.05144	0.05144		0.05	0	0	0.0002882	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05198	0.05198		0.05	0	0	0.0001626	0.001	1	104%	90	110	0%	
Barium	A	mg/L	0.0521	0.0521		0.05	0	0	8.917E-05	0.001	1	104%	90	110	0%	
Beryllium	A	mg/L	0.05179	0.05179		0.05	0	0	0.0001137	0.001	1	104%	90	110	0%	
Boron	A	mg/L	0.05656	0.05656		0.05	0	0	0.0036397	0.0036397	1	113%	90	110	0%	S
Cadmium	A	mg/L	0.05073	0.05073		0.05	0	0	2.969E-05	0.001	1	101%	90	110	0%	
Calcium	A	mg/L	11.06	11.06		12.5	0	0	0.0254163	0.0254163	50	88%	90	110	0%	S
Cerium	A	mg/L	0.274	0.274		0.05	0	0	8.97E-06	0.001	0.1	548%	90	110	0%	S
Chromium	A	mg/L	0.05256	0.05256		0.05	0	0	0.0002078	0.001	1	105%	90	110	0%	
Cobalt	A	mg/L	0.05035	0.05035		0.05	0	0	2.037E-05	0.001	1	101%	90	110	0%	
Copper	A	mg/L	0.05934	0.05934		0.05	0	0	0.0001010	0.001	1	119%	90	110	0%	S
Iron	A	mg/L	1.251	1.251		1.3	0	0	0.0021231	0.0021231	5	96%	90	110	0%	
Lanthanum	A	mg/L	0.035	0.035		0.05	0	0	1.209E-05	0.001	0.1	70%	90	110	0%	S
Lead	A	mg/L	0.0521	0.0521		0.05	0	0	3.957E-05	0.001	1	104%	90	110	0%	
Lithium	A	mg/L	0.6588	0.6588		0.625	0	0	0.05	0.05	1	105%	90	110	0%	
Magnesium	A	mg/L	13.23	13.23		12.5	0	0	0.0084694	0.0084694	50	106%	90	110	0%	
Manganese	A	mg/L	0.05011	0.05011		0.05	0	0	5.319E-05	0.001	1	100%	90	110	0%	
Mercury	A	mg/L	0.005536	0.005536		0.001	0	0	7.78E-06	0.001	0.002	554%	90	110	0%	S
Molybdenum	A	mg/L	0.04781	0.04781		0.05	0	0	0.0000598	0.001	0.1	96%	90	110	0%	
Nickel	A	mg/L	0.0571	0.0571		0.05	0	0	0.0001477	0.001	1	114%	90	110	0%	S
Potassium	A	mg/L	10.69	10.69		12.5	0	0	0.0951865	0.0951865	50	86%	90	110	0%	S
Selenium	A	mg/L	0.05204	0.05204		0.05	0	0	6.961E-05	0.001	1	104%	90	110	0%	
Silicon	A	mg/L	0.1964	0.1964		0.2	0	0	0.0786454	0.1	0.4	98%	90	110	0%	
Silver	A	mg/L	0.01939	0.01939		0.02	0	0	1.541E-05	0.001	0.04	97%	90	110	0%	
Sodium	A	mg/L	13.54	13.54		12.5	0	0	0.0321039	0.0321039	50	108%	90	110	0%	
Strontium	A	mg/L	0.05035	0.05035		0.05	0	0	9.136E-05	0.001	1	101%	90	110	0%	
Thallium	A	mg/L	0.04917	0.04917		0.05	0	0	0.0001262	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.05092	0.05092		0.05	0	0	7.051E-05	0.001	1	102%	90	110	0%	
Tin	A	mg/L	0.05137	0.05137		0.05	0	0	0.0021596	0.0021596	0.1	103%	90	110	0%	
Titanium	A	mg/L	0.04765	0.04765		0.05	0	0	0.0001844	0.001	1	95%	90	110	0%	
Uranium	A	mg/L	0.04877	0.04877		0.05	0	0	1.948E-05	0.0003	1	98%	90	110	0%	
Vanadium	A	mg/L	0.05152	0.05152		0.05	0	0	0.004194	0.004194	1	103%	90	110	0%	
Zinc	A	mg/L	0.05574	0.05574		0.05	0	0	0.0006119	0.001	1	111%	90	110	0%	S
Iron, Ferrous	C	mg/L	1.251	1.251		0	0	0	0.0021231	0.0021231	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			
14980193	CCB	ICPMS-6020-W-	CCB		1/14/2022 7:40:4	1	R373222		0	0				

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0003075	-0.0003075		0	0	0	0.0006966	0.001	1	0%			0%	
Antimony	A	mg/L	0.0000699	0.0000699		0	0	0	0.0002882	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0001237	-0.0001237		0	0	0	0.0001626	0.001	1	0%			0%	
Barium	A	mg/L	-5.535E-06	-5.535E-06		0	0	0	8.917E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	-0.00007969	-0.00007969		0	0	0	0.0001137	0.001	1	0%			0%	
Boron	A	mg/L	0.001491	0.001491		0	0	0	0.0036397	0.0036397	1	0%			0%	
Cadmium	A	mg/L	0.000002437	0.000002437		0	0	0	2.969E-05	0.001	1	0%			0%	
Calcium	A	mg/L	-0.004071	-0.004071		0	0	0	0.0254163	0.0254163	50	0%			0%	
Cerium	A	mg/L	0.00001322	0.00001322		0	0	0	8.97E-06	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-4.477E-06	-4.477E-06		0	0	0	0.0002078	0.001	1	0%			0%	
Cobalt	A	mg/L	-0.00001096	-0.00001096		0	0	0	2.037E-05	0.001	1	0%			0%	
Copper	A	mg/L	0.00004554	0.00004554		0	0	0	0.0001010	0.001	1	0%			0%	
Iron	A	mg/L	0.000286	0.000286		0	0	0	0.0021231	0.0021231	5	0%			0%	
Lanthanum	A	mg/L	-0.0118	-0.0118		0	0	0	1.209E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-3.303E-06	-3.303E-06		0	0	0	3.957E-05	0.001	1	0%			0%	
Lithium	A	mg/L	-0.000396	-0.000396		0	0	0	0.05	0.05	1	0%			0%	
Magnesium	A	mg/L	0.0008915	0.0008915		0	0	0	0.0084694	0.0084694	50	0%			0%	
Manganese	A	mg/L	-9.688E-06	-9.688E-06		0	0	0	5.319E-05	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001315	0.00001315		0	0	0	7.78E-06	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002318	0.00002318		0	0	0	0.0000598	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.00007918	0.00007918		0	0	0	0.0001477	0.001	1	0%			0%	
Potassium	A	mg/L	-0.04453	-0.04453		0	0	0	0.0951865	0.0951865	50	0%			0%	
Selenium	A	mg/L	0.00001925	0.00001925		0	0	0	6.961E-05	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01161	-0.01161		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.288E-08	-6.288E-08		0	0	0	1.541E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.05475	0.05475		0	0	0	0.0321039	0.0321039	50	0%			0%	
Strontium	A	mg/L	0.000002961	0.000002961		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0003251	0.0003251		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001534	0.00001534		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	-0.00002155	-0.00002155		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	
Titanium	A	mg/L	-0.0002249	-0.0002249		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002504	0.000002504		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.0003642	0.0003642		0	0	0	0.004194	0.004194	1	0%	0	0	0%	
Zinc	A	mg/L	0.00005881	0.00005881		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.000286	0.000286		0	0	0	0.0021231	0.0021231	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
14980194	Cal Blk	ICPMS-6020-W-	SAMP		1/14/2022 7:46:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0	0		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	0	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Magnesium	A	mg/L	0	0		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	L
Manganese	A	mg/L	0	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	0	0		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	L
Strontium	A	mg/L	0	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Lithium	B	mg/L	0	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	0	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980195	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/14/2022 7:53:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002081	0.0002081		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00003545	0.00003545		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00005817	0.00005817		0.000025	0	0		0.001		233%	80	120	0%	S
Barium	A	mg/L	0.00002751	0.00002751		0.000025	0	0		0.0003		110%	80	120	0%	
Beryllium	A	mg/L	0.00002483	0.00002483		0.000025	0	0		0.001		99%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980195	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/14/2022 7:53:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	-0.0002677	-0.0002677		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00003391	0.00003391		0.000025	0	0		0.001		136%	80	120	0%	S
Calcium	A	mg/L	0.009545	0.009545		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00001159	0.00001159		0.000025	0	0		0.001		46%	80	120	0%	S
Chromium	A	mg/L	0.000003072	0.000003072		0.000025	0	0		0.001		12%	80	120	0%	S
Cobalt	A	mg/L	0.00002595	0.00002595		0.000025	0	0		0.001		104%	80	120	0%	
Copper	A	mg/L	0.00006749	0.00006749		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0008925	0.0008925		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.08064	0.08064		0.000025	0	0		0.001		322560%	80	120	0%	S
Lead	A	mg/L	0.00003202	0.00003202		0.000025	0	0		0.001		128%	80	120	0%	S
Lithium	A	mg/L	0.0001684	0.0001684		0.0003125	0	0		1		54%	80	120	0%	S
Magnesium	A	mg/L	0.007907	0.007907		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.0000255	0.0000255		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	-0.00001381	-0.00001381		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00002805	0.00002805		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00004774	0.00004774		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.002543	0.002543		0.00625	0	0		1		41%	80	120	0%	S
Selenium	A	mg/L	0.00003055	0.00003055		0.000025	0	0		0.005		122%	80	120	0%	S
Silicon	A	mg/L	0.0002173	0.0002173		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002166	0.00002166		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.008972	0.008972		0.00625	0	0		1		144%	80	120	0%	S
Strontium	A	mg/L	0.00004195	0.00004195		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	-0.00003785	-0.00003785		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00001458	0.00001458		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0001551	0.0001551		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.0000966	0.0000966		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00003144	0.00003144		0.000025	0	0		0.001		126%	80	120	0%	S
Vanadium	A	mg/L	0.0001919	0.0001919		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0007238	0.0007238		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0008925	0.0008925		0.000025	0	0		0.01	5	3570%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.000465022	0.000465022		0.0000535	0	0		0.214	0.9	869%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980196	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/14/2022 7:59:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001106	0.0001106		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00004246	0.00004246		0.00005	0	0		0.001		85%	80	120	0%	
Arsenic	A	mg/L	0.00003907	0.00003907		0.00005	0	0		0.001		78%	80	120	0%	S
Barium	A	mg/L	0.00005513	0.00005513		0.00005	0	0		0.0003		110%	80	120	0%	
Beryllium	A	mg/L	0.00005745	0.00005745		0.00005	0	0		0.001		115%	80	120	0%	
Boron	A	mg/L	-0.0004215	-0.0004215		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00005799	0.00005799		0.00005	0	0		0.001		116%	80	120	0%	
Calcium	A	mg/L	0.01432	0.01432		0.0125	0	0		1		115%	80	120	0%	
Cerium	A	mg/L	-2.429E-06	-2.429E-06		0.00005	0	0		0.001		-5%	80	120	0%	S
Chromium	A	mg/L	0.00006158	0.00006158		0.00005	0	0		0.001		123%	80	120	0%	S
Cobalt	A	mg/L	0.00005911	0.00005911		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00006382	0.00006382		0.00005	0	0		0.005		128%	80	120	0%	S
Iron	A	mg/L	0.001509	0.001509		0.00125	0	0		0.01		121%	80	120	0%	S
Lanthanum	A	mg/L	0.007517	0.007517		0.00005	0	0		0.001		15034%	80	120	0%	S
Lead	A	mg/L	0.00005232	0.00005232		0.00005	0	0		0.001		105%	80	120	0%	
Lithium	A	mg/L	0.0005368	0.0005368		0.000625	0	0		1		86%	80	120	0%	
Magnesium	A	mg/L	0.0157	0.0157		0.0125	0	0		1		126%	80	120	0%	S
Manganese	A	mg/L	0.00005554	0.00005554		0.00005	0	0		0.001		111%	80	120	0%	
Mercury	A	mg/L	-0.00002814	-0.00002814		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00004863	0.00004863		0.00005	0	0		0.001		97%	80	120	0%	
Nickel	A	mg/L	0.00004091	0.00004091		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.00435	0.00435		0.0125	0	0		1		35%	80	120	0%	S
Selenium	A	mg/L	0.0000566	0.0000566		0.00005	0	0		0.005		113%	80	120	0%	
Silicon	A	mg/L	-0.0004512	-0.0004512		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002949	0.00002949		0.00002	0	0		0.001		147%	80	120	0%	S
Sodium	A	mg/L	0.01348	0.01348		0.0125	0	0		1		108%	80	120	0%	
Strontium	A	mg/L	0.00005359	0.00005359		0.00005	0	0		0.001		107%	80	120	0%	
Thallium	A	mg/L	-0.00003517	-0.00003517		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00003068	0.00003068		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.000307	0.000307		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00007059	0.00007059		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.0000484	0.0000484		0.00005	0	0		0.001		97%	80	120	0%	
Vanadium	A	mg/L	-0.00006058	-0.00006058		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001033	0.0001033		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001509	0.001509		0.00005	0	0		0.01	5	3018%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980196	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/14/2022 7:59:4	1	R373222		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	-0.00096557	-0.00096557		0.00428	0	0		0.214	0.9	-23%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980197	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/14/2022 8:06:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001717	0.0001717		0.0001	0	0		0.01		172%	80	120	0%	S
Antimony	A	mg/L	0.00009894	0.00009894		0.0001	0	0		0.001		99%	80	120	0%	
Arsenic	A	mg/L	0.0001246	0.0001246		0.0001	0	0		0.001		125%	80	120	0%	S
Barium	A	mg/L	0.0001004	0.0001004		0.0001	0	0		0.0003		100%	80	120	0%	
Beryllium	A	mg/L	0.0001105	0.0001105		0.0001	0	0		0.001		111%	80	120	0%	
Boron	A	mg/L	-0.0006131	-0.0006131		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.0001072	0.0001072		0.0001	0	0		0.001		107%	80	120	0%	
Calcium	A	mg/L	0.02907	0.02907		0.025	0	0		1		116%	80	120	0%	
Cerium	A	mg/L	0.000002119	0.000002119		0.0001	0	0		0.001		2%	80	120	0%	S
Chromium	A	mg/L	0.0001315	0.0001315		0.0001	0	0		0.001		132%	80	120	0%	S
Cobalt	A	mg/L	0.0001162	0.0001162		0.0001	0	0		0.001		116%	80	120	0%	
Copper	A	mg/L	0.0001165	0.0001165		0.0001	0	0		0.005		117%	80	120	0%	
Iron	A	mg/L	0.00307	0.00307		0.0025	0	0		0.01		123%	80	120	0%	S
Lanthanum	A	mg/L	0.007494	0.007494		0.0001	0	0		0.001		7494%	80	120	0%	S
Lead	A	mg/L	0.0001068	0.0001068		0.0001	0	0		0.001		107%	80	120	0%	
Lithium	A	mg/L	0.001279	0.001279		0.00125	0	0		1		102%	80	120	0%	
Magnesium	A	mg/L	0.03107	0.03107		0.025	0	0		1		124%	80	120	0%	S
Manganese	A	mg/L	0.0001121	0.0001121		0.0001	0	0		0.001		112%	80	120	0%	
Mercury	A	mg/L	-0.0000134	-0.0000134		0.000002	0	0		0.001		-670%	80	120	0%	S
Molybdenum	A	mg/L	0.0001019	0.0001019		0.0001	0	0		0.001		102%	80	120	0%	
Nickel	A	mg/L	0.000127	0.000127		0.0001	0	0		0.005		127%	80	120	0%	S
Potassium	A	mg/L	0.02309	0.02309		0.025	0	0		1		92%	80	120	0%	
Selenium	A	mg/L	0.0001229	0.0001229		0.0001	0	0		0.005		123%	80	120	0%	S
Silicon	A	mg/L	-0.0006545	-0.0006545		0.0004	0	0		0.1		-164%	80	120	0%	S
Silver	A	mg/L	0.00005592	0.00005592		0.00004	0	0		0.001		140%	80	120	0%	S
Sodium	A	mg/L	0.02978	0.02978		0.025	0	0		1		119%	80	120	0%	
Strontium	A	mg/L	0.0001199	0.0001199		0.0001	0	0		0.001		120%	80	120	0%	
Thallium	A	mg/L	0.00001272	0.00001272		0.0001	0	0		0.001		13%	80	120	0%	S
Thorium	A	mg/L	0.00007358	0.00007358		0.0001	0	0		0.05		74%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980197	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/14/2022 8:06:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.0003526	0.0003526		0.0001	0	0		0.001		353%	80	120	0%	S
Titanium	A	mg/L	0.0001439	0.0001439		0.0001	0	0		0.001		144%	80	120	0%	S
Uranium	A	mg/L	0.0001054	0.0001054		0.0001	0	0		0.001		105%	80	120	0%	
Vanadium	A	mg/L	0.00002753	0.00002753		0.0001	0	0		0.005		28%	80	120	0%	S
Zinc	A	mg/L	0.0002264	0.0002264		0.0001	0	0		0.01		226%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.00307	0.00307		0.0001	0	0		0.01	5	3070%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.00140063	-0.00140063		0.00856	0	0		0.214	0.9	-16%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980198	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/14/2022 8:12:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0006409	0.0006409		0.0005	0	0		0.01		128%	80	120	0%	S
Antimony	A	mg/L	0.0004822	0.0004822		0.0005	0	0		0.001		96%	80	120	0%	
Arsenic	A	mg/L	0.0005259	0.0005259		0.0005	0	0		0.001		105%	80	120	0%	
Barium	A	mg/L	0.0004988	0.0004988		0.0005	0	0		0.0003		100%	80	120	0%	
Beryllium	A	mg/L	0.0005215	0.0005215		0.0005	0	0		0.001		104%	80	120	0%	
Boron	A	mg/L	-0.0003003	-0.0003003		0.0005	0	0		0.1		-60%	80	120	0%	S
Cadmium	A	mg/L	0.0005282	0.0005282		0.0005	0	0		0.001		106%	80	120	0%	
Calcium	A	mg/L	0.1336	0.1336		0.125	0	0		1		107%	80	120	0%	
Cerium	A	mg/L	0.000002992	0.000002992		0.0005	0	0		0.001		1%	80	120	0%	S
Chromium	A	mg/L	0.0004933	0.0004933		0.0005	0	0		0.001		99%	80	120	0%	
Cobalt	A	mg/L	0.0005464	0.0005464		0.0005	0	0		0.001		109%	80	120	0%	
Copper	A	mg/L	0.0006	0.0006		0.0005	0	0		0.005		120%	80	120	0%	
Iron	A	mg/L	0.01421	0.01421		0.0125	0	0		0.01		114%	80	120	0%	
Lanthanum	A	mg/L	0.06813	0.06813		0.0005	0	0		0.001		13626%	80	120	0%	S
Lead	A	mg/L	0.0005237	0.0005237		0.0005	0	0		0.001		105%	80	120	0%	
Lithium	A	mg/L	0.006633	0.006633		0.00625	0	0		1		106%	80	120	0%	
Magnesium	A	mg/L	0.145	0.145		0.125	0	0		1		116%	80	120	0%	
Manganese	A	mg/L	0.000541	0.000541		0.0005	0	0		0.001		108%	80	120	0%	
Mercury	A	mg/L	-3.935E-06	-3.935E-06		0.00001	0	0		0.001		-39%	80	120	0%	S
Molybdenum	A	mg/L	0.0005065	0.0005065		0.0005	0	0		0.001		101%	80	120	0%	
Nickel	A	mg/L	0.000572	0.000572		0.0005	0	0		0.005		114%	80	120	0%	
Potassium	A	mg/L	0.1194	0.1194		0.125	0	0		1		96%	80	120	0%	
Selenium	A	mg/L	0.000524	0.000524		0.0005	0	0		0.005		105%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980198	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/14/2022 8:12:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.001035	0.001035		0.002	0	0		0.1		52%	80	120	0%	S
Silver	A	mg/L	0.000219	0.000219		0.0002	0	0		0.001		110%	80	120	0%	
Sodium	A	mg/L	0.1368	0.1368		0.125	0	0		1		109%	80	120	0%	
Strontium	A	mg/L	0.0005277	0.0005277		0.0005	0	0		0.001		106%	80	120	0%	
Thallium	A	mg/L	0.0004159	0.0004159		0.0005	0	0		0.001		83%	80	120	0%	
Thorium	A	mg/L	0.00045	0.00045		0.0005	0	0		0.05		90%	80	120	0%	
Tin	A	mg/L	0.0007419	0.0007419		0.0005	0	0		0.001		148%	80	120	0%	S
Titanium	A	mg/L	0.0005618	0.0005618		0.0005	0	0		0.001		112%	80	120	0%	
Uranium	A	mg/L	0.0005079	0.0005079		0.0005	0	0		0.001		102%	80	120	0%	
Vanadium	A	mg/L	0.0002236	0.0002236		0.0005	0	0		0.005		45%	80	120	0%	S
Zinc	A	mg/L	0.0008575	0.0008575		0.0005	0	0		0.01		171%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.01421	0.01421		0.0005	0	0		0.01	5	2842%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.0022149	0.0022149		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
14980199	1 ppb STD	ICPMS-6020B-C	Cal5		1/14/2022 8:18:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001254	0.001254		0.001	0	0		0.01		125%	80	120	0%	S
Antimony	A	mg/L	0.001052	0.001052		0.001	0	0		0.001		105%	80	120	0%	
Arsenic	A	mg/L	0.001107	0.001107		0.001	0	0		0.001		111%	80	120	0%	
Barium	A	mg/L	0.001084	0.001084		0.001	0	0		0.0003		108%	80	120	0%	
Beryllium	A	mg/L	0.001111	0.001111		0.001	0	0		0.001		111%	80	120	0%	
Boron	A	mg/L	0.0002314	0.0002314		0.001	0	0		0.1		23%	80	120	0%	S
Cadmium	A	mg/L	0.001114	0.001114		0.001	0	0		0.001		111%	80	120	0%	
Calcium	A	mg/L	0.2741	0.2741		0.25	0	0		1		110%	80	120	0%	
Cerium	A	mg/L	0.000005493	0.000005493		0.001	0	0		0.001		1%	80	120	0%	S
Chromium	A	mg/L	0.001124	0.001124		0.001	0	0		0.001		112%	80	120	0%	
Cobalt	A	mg/L	0.001181	0.001181		0.001	0	0		0.001		118%	80	120	0%	
Copper	A	mg/L	0.001244	0.001244		0.001	0	0		0.005		124%	80	120	0%	S
Iron	A	mg/L	0.0295	0.0295		0.025	0	0		0.01		118%	80	120	0%	
Lanthanum	A	mg/L	0.02239	0.02239		0.001	0	0		0.001		2239%	80	120	0%	S
Lead	A	mg/L	0.001089	0.001089		0.001	0	0		0.001		109%	80	120	0%	
Lithium	A	mg/L	0.01404	0.01404		0.0125	0	0		1		112%	80	120	0%	
Magnesium	A	mg/L	0.3086	0.3086		0.25	0	0		1		123%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980199	1 ppb STD	ICPMS-6020B-C	Cal5		1/14/2022 8:18:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.001135	0.001135		0.001	0	0		0.001		114%	80	120	0%	
Mercury	A	mg/L	-0.0000279	-0.0000279		0.00002	0	0		0.001		-140%	80	120	0%	S
Molybdenum	A	mg/L	0.001071	0.001071		0.001	0	0		0.001		107%	80	120	0%	
Nickel	A	mg/L	0.001223	0.001223		0.001	0	0		0.005		122%	80	120	0%	S
Potassium	A	mg/L	0.2621	0.2621		0.25	0	0		1		105%	80	120	0%	
Selenium	A	mg/L	0.001154	0.001154		0.001	0	0		0.005		115%	80	120	0%	
Silicon	A	mg/L	0.003281	0.003281		0.004	0	0		0.1		82%	80	120	0%	
Silver	A	mg/L	0.000455	0.000455		0.0004	0	0		0.001		114%	80	120	0%	
Sodium	A	mg/L	0.3016	0.3016		0.25	0	0		1		121%	80	120	0%	S
Strontium	A	mg/L	0.001099	0.001099		0.001	0	0		0.001		110%	80	120	0%	
Thallium	A	mg/L	0.0009772	0.0009772		0.001	0	0		0.001		98%	80	120	0%	
Thorium	A	mg/L	0.0009844	0.0009844		0.001	0	0		0.05		98%	80	120	0%	
Tin	A	mg/L	0.001453	0.001453		0.001	0	0		0.001		145%	80	120	0%	S
Titanium	A	mg/L	0.001221	0.001221		0.001	0	0		0.001		122%	80	120	0%	S
Uranium	A	mg/L	0.001029	0.001029		0.001	0	0		0.001		103%	80	120	0%	
Vanadium	A	mg/L	0.0007364	0.0007364		0.001	0	0		0.005		74%	80	120	0%	S
Zinc	A	mg/L	0.001407	0.001407		0.001	0	0		0.01		141%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.0295	0.0295		0.001	0	0		0.01	5	2950%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00702134	0.00702134		0.0856	0	0		0.214	0.9	8%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980200	10 ppb STD	ICPMS-6020B-C	Cal6		1/14/2022 8:25:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.01077	0.01077		0.01	0	0		0.01		108%	90	110	0%	
Antimony	A	mg/L	0.01027	0.01027		0.01	0	0		0.001		103%	90	110	0%	
Arsenic	A	mg/L	0.01064	0.01064		0.01	0	0		0.001		106%	90	110	0%	
Barium	A	mg/L	0.01068	0.01068		0.01	0	0		0.0003		107%	90	110	0%	
Beryllium	A	mg/L	0.01119	0.01119		0.01	0	0		0.001		112%	90	110	0%	S
Boron	A	mg/L	0.009623	0.009623		0.01	0	0		0.1		96%	90	110	0%	
Cadmium	A	mg/L	0.0106	0.0106		0.01	0	0		0.001		106%	90	110	0%	
Calcium	A	mg/L	2.634	2.634		2.5	0	0		1		105%	90	110	0%	
Cerium	A	mg/L	0.000009799	0.000009799		0.01	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.01084	0.01084		0.01	0	0		0.001		108%	90	110	0%	
Cobalt	A	mg/L	0.01119	0.01119		0.01	0	0		0.001		112%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980200	10 ppb STD	ICPMS-6020B-C	Cal6		1/14/2022 8:25:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.01201	0.01201		0.01	0	0		0.005		120%	90	110	0%	S
Iron	A	mg/L	0.2795	0.2795		0.25	0	0		0.01		112%	90	110	0%	S
Lanthanum	A	mg/L	0.07387	0.07387		0.01	0	0		0.001		739%	90	110	0%	S
Lead	A	mg/L	0.0104	0.0104		0.01	0	0		0.001		104%	90	110	0%	
Lithium	A	mg/L	0.1333	0.1333		0.125	0	0		1		107%	90	110	0%	
Magnesium	A	mg/L	2.862	2.862		2.5	0	0		1		114%	90	110	0%	S
Manganese	A	mg/L	0.01065	0.01065		0.01	0	0		0.001		106%	90	110	0%	
Mercury	A	mg/L	-0.00002245	-0.00002245		0.0002	0	0		0.001		-11%	90	110	0%	S
Molybdenum	A	mg/L	0.01049	0.01049		0.01	0	0		0.001		105%	90	110	0%	
Nickel	A	mg/L	0.01188	0.01188		0.01	0	0		0.005		119%	90	110	0%	S
Potassium	A	mg/L	2.537	2.537		2.5	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.01092	0.01092		0.01	0	0		0.005		109%	90	110	0%	
Silicon	A	mg/L	0.0405	0.0405		0.04	0	0		0.1		101%	90	110	0%	
Silver	A	mg/L	0.004333	0.004333		0.004	0	0		0.001		108%	90	110	0%	
Sodium	A	mg/L	2.903	2.903		2.5	0	0		1		116%	90	110	0%	S
Strontium	A	mg/L	0.01064	0.01064		0.01	0	0		0.001		106%	90	110	0%	
Thallium	A	mg/L	0.01038	0.01038		0.01	0	0		0.001		104%	90	110	0%	
Thorium	A	mg/L	0.01005	0.01005		0.01	0	0		0.05		101%	90	110	0%	
Tin	A	mg/L	0.01102	0.01102		0.01	0	0		0.001		110%	90	110	0%	
Titanium	A	mg/L	0.01082	0.01082		0.01	0	0		0.001		108%	90	110	0%	
Uranium	A	mg/L	0.009991	0.009991		0.01	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.01017	0.01017		0.01	0	0		0.005		102%	90	110	0%	
Zinc	A	mg/L	0.0122	0.0122		0.01	0	0		0.01		122%	90	110	0%	S
Iron, Ferrous	C	mg/L	0.2795	0.2795		0.01	0	0		0.01	5	2795%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.08667	0.08667		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
14980201	50 ppb STD	ICPMS-6020B-C	Cal7		1/14/2022 8:31:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05202	0.05202		0.05	0	0		0.01		104%	90	110	0%	
Antimony	A	mg/L	0.05255	0.05255		0.05	0	0		0.001		105%	90	110	0%	
Arsenic	A	mg/L	0.05161	0.05161		0.05	0	0		0.001		103%	90	110	0%	
Barium	A	mg/L	0.05258	0.05258		0.05	0	0		0.0003		105%	90	110	0%	
Beryllium	A	mg/L	0.05226	0.05226		0.05	0	0		0.001		105%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980201	50 ppb STD	ICPMS-6020B-C	Cal7		1/14/2022 8:31:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.0522	0.0522		0.05	0	0		0.1		104%	90	110	0%	
Cadmium	A	mg/L	0.05171	0.05171		0.05	0	0		0.001		103%	90	110	0%	
Calcium	A	mg/L	11.89	11.89		12.5	0	0		1		95%	90	110	0%	
Cerium	A	mg/L	0.252	0.252		0.05	0	0		0.001		504%	90	110	0%	S
Chromium	A	mg/L	0.05204	0.05204		0.05	0	0		0.001		104%	90	110	0%	
Cobalt	A	mg/L	0.05171	0.05171		0.05	0	0		0.001		103%	90	110	0%	
Copper	A	mg/L	0.05547	0.05547		0.05	0	0		0.005		111%	90	110	0%	S
Iron	A	mg/L	1.281	1.281		1.25	0	0		0.01		102%	90	110	0%	
Lanthanum	A	mg/L	0.05959	0.05959		0.05	0	0		0.001		119%	90	110	0%	S
Lead	A	mg/L	0.04886	0.04886		0.05	0	0		0.001		98%	90	110	0%	
Lithium	A	mg/L	0.6398	0.6398		0.625	0	0		1		102%	90	110	0%	
Magnesium	A	mg/L	12.89	12.89		12.5	0	0		1		103%	90	110	0%	
Manganese	A	mg/L	0.05081	0.05081		0.05	0	0		0.001		102%	90	110	0%	
Mercury	A	mg/L	0.005067	0.005067		0.001	0	0		0.001		507%	90	110	0%	S
Molybdenum	A	mg/L	0.05182	0.05182		0.05	0	0		0.001		104%	90	110	0%	
Nickel	A	mg/L	0.05463	0.05463		0.05	0	0		0.005		109%	90	110	0%	
Potassium	A	mg/L	11.92	11.92		12.5	0	0		1		95%	90	110	0%	
Selenium	A	mg/L	0.05139	0.05139		0.05	0	0		0.005		103%	90	110	0%	
Silicon	A	mg/L	0.2063	0.2063		0.2	0	0		0.1		103%	90	110	0%	
Silver	A	mg/L	0.02034	0.02034		0.02	0	0		0.001		102%	90	110	0%	
Sodium	A	mg/L	13.1	13.1		12.5	0	0		1		105%	90	110	0%	
Strontium	A	mg/L	0.05048	0.05048		0.05	0	0		0.001		101%	90	110	0%	
Thallium	A	mg/L	0.04779	0.04779		0.05	0	0		0.001		96%	90	110	0%	
Thorium	A	mg/L	0.04865	0.04865		0.05	0	0		0.05		97%	90	110	0%	
Tin	A	mg/L	0.05192	0.05192		0.05	0	0		0.001		104%	90	110	0%	
Titanium	A	mg/L	0.05171	0.05171		0.05	0	0		0.001		103%	90	110	0%	
Uranium	A	mg/L	0.04859	0.04859		0.05	0	0		0.001		97%	90	110	0%	
Vanadium	A	mg/L	0.05117	0.05117		0.05	0	0		0.005		102%	90	110	0%	
Zinc	A	mg/L	0.05432	0.05432		0.05	0	0		0.01		109%	90	110	0%	
Iron, Ferrous	C	mg/L	1.281	1.281		0.05	0	0		0.01	5	2562%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.441482	0.441482		4.28	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980202	100 ppb STD	ICPMS-6020B-C	Cal8		1/14/2022 8:38:0	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09879	0.09879		0.1	0	0		0.01		99%	90	110	0%	
Antimony	A	mg/L	0.0987	0.0987		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.09912	0.09912		0.1	0	0		0.001		99%	90	110	0%	
Barium	A	mg/L	0.0995	0.0995		0.1	0	0		0.0003		99%	90	110	0%	
Beryllium	A	mg/L	0.1007	0.1007		0.1	0	0		0.001		101%	90	110	0%	
Boron	A	mg/L	0.1009	0.1009		0.1	0	0		0.1		101%	90	110	0%	
Cadmium	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	23.55	23.55		25	0	0		1		94%	90	110	0%	
Cerium	A	mg/L	0.00002068	0.00002068		0.1	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.09818	0.09818		0.1	0	0		0.001		98%	90	110	0%	
Cobalt	A	mg/L	0.09945	0.09945		0.1	0	0		0.001		99%	90	110	0%	
Copper	A	mg/L	0.1046	0.1046		0.1	0	0		0.005		105%	90	110	0%	
Iron	A	mg/L	2.513	2.513		2.5	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.08823	0.08823		0.1	0	0		0.001		88%	90	110	0%	S
Lead	A	mg/L	0.09582	0.09582		0.1	0	0		0.001		96%	90	110	0%	
Lithium	A	mg/L	1.234	1.234		1.25	0	0		1		99%	90	110	0%	
Magnesium	A	mg/L	25.31	25.31		25	0	0		1		101%	90	110	0%	
Manganese	A	mg/L	0.09705	0.09705		0.1	0	0		0.001		97%	90	110	0%	
Mercury	A	mg/L	-0.00001081	-0.00001081		0.002	0	0		0.001		-1%	90	110	0%	S
Molybdenum	A	mg/L	0.09904	0.09904		0.1	0	0		0.001		99%	90	110	0%	
Nickel	A	mg/L	0.1023	0.1023		0.1	0	0		0.005		102%	90	110	0%	
Potassium	A	mg/L	23.82	23.82		25	0	0		1		95%	90	110	0%	
Selenium	A	mg/L	0.1003	0.1003		0.1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.3968	0.3968		0.4	0	0		0.1		99%	90	110	0%	
Silver	A	mg/L	0.0398	0.0398		0.04	0	0		0.001		99%	90	110	0%	
Sodium	A	mg/L	25.19	25.19		25	0	0		1		101%	90	110	0%	
Strontium	A	mg/L	0.09619	0.09619		0.1	0	0		0.001		96%	90	110	0%	
Thallium	A	mg/L	0.09644	0.09644		0.1	0	0		0.001		96%	90	110	0%	
Thorium	A	mg/L	0.0955	0.0955		0.1	0	0		0.05		95%	90	110	0%	
Tin	A	mg/L	0.09893	0.09893		0.1	0	0		0.001		99%	90	110	0%	
Titanium	A	mg/L	0.09906	0.09906		0.1	0	0		0.001		99%	90	110	0%	
Uranium	A	mg/L	0.09644	0.09644		0.1	0	0		0.001		96%	90	110	0%	
Vanadium	A	mg/L	0.09632	0.09632		0.1	0	0		0.005		96%	90	110	0%	
Zinc	A	mg/L	0.1015	0.1015		0.1	0	0		0.01		101%	90	110	0%	
Iron, Ferrous	C	mg/L	2.513	2.513		0.1	0	0		0.01	5	2513%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980202	100 ppb STD	ICPMS-6020B-C	Cal8		1/14/2022 8:38:0	1	R373222		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	0.849152	0.849152		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
14980203	1000 ppb STD	ICPMS-6020B-C	Cal10		1/14/2022 8:44:3	1	R373222		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	0.0001967	0.0001967		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.9999	0.9999		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.9998	0.9998		1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.9998	0.9998		1	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	50.87	50.87		50	0	0		1		102%	90	110	0%	
Cerium	A	mg/L	0.0001174	0.0001174		0	0	0		0.001		0%			0%	
Chromium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.9992	0.9992		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.041	6.041		6	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.3434	0.3434		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	2.504	2.504		2.5	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	49.73	49.73		50	0	0		1		99%	90	110	0%	
Manganese	A	mg/L	1	1		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	-2.779E-07	-2.779E-07		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00008298	0.00008298		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9995	0.9995		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.73	50.73		50	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.9999	0.9999		1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.0004564	0.0004564		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.3564	0.3564		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	49.73	49.73		50	0	0		1		99%	90	110	0%	
Strontium	A	mg/L	1	1		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	1.001	1.001		1	0	0		0.05		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980203	1000 ppb STD	ICPMS-6020B-C	Cal10		1/14/2022 8:44:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.000268	0.000268		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.006049	0.006049		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	0.9996	0.9996		1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	6.041	6.041		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	0.000976696	0.000976696		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
14980204	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/14/2022 8:50:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0003824	0		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00003601	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0003816	0.0003816		0	0	0	0.0001626	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.0001332	0.0001332		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	J
Beryllium	A	mg/L	0.0002759	0.0002759		0	0	0	0.0001137	0.001	1	0%	0	0	0%	J
Cadmium	A	mg/L	0.0001397	0.0001397		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	J
Chromium	A	mg/L	0.00005907	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0001364	0.0001364		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	J
Iron	A	mg/L	0.0009106	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.0002018	0.0002018		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	J
Magnesium	A	mg/L	0.008734	0.008734		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	D
Manganese	A	mg/L	0.000131	0.000131		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0000135	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0003098	0.0003098		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	J
Silicon	A	mg/L	-0.000986	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.0001603	0.0001603		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	J
Sodium	A	mg/L	0.01284	0		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	L
Strontium	A	mg/L	0.0001156	0.0001156		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	J
Thallium	A	mg/L	0.0004696	0.0004696		0	0	0	0.0001262	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0002165	0.0002165		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	J
Tin	A	mg/L	0.005572	0.005572		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	D
Titanium	A	mg/L	0.0001539	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0001596	0.0001596		0	0	0	1.948E-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
14980204	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/14/2022 8:50:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lithium	B	mg/L	0.004057	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	0.0009106	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980205	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 8:57:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.004908	0.004908		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	-4.419E-07	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.00004262	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00003281	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.0000805	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002246	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.00007751	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.000004967	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0.00001895	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.00002774	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Magnesium	A	mg/L	0.002985	0		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	L
Manganese	A	mg/L	0.00001431	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	-1.981E-06	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.00005087	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.002188	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000001702	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	-0.0161	0		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	L
Strontium	A	mg/L	0.000004552	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00006356	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000023	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.001773	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0.00003957	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001258	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Lithium	B	mg/L	0.0008544	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	0.00001895	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980206	QCS	ICPMS-6020-W-	ICV		1/14/2022 9:03:3	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2599	0.2599		0.25	0	0	0.0006966	0.001	1	104%	90	110	0%	
Antimony	A	mg/L	0.04877	0.04877		0.05	0	0	0.0002882	0.001	0.1	98%	90	110	0%	
Arsenic	A	mg/L	0.05096	0.05096		0.05	0	0	0.0001626	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05091	0.05091		0.05	0	0	8.917E-05	0.001	1	102%	90	110	0%	
Beryllium	A	mg/L	0.02602	0.02602		0.025	0	0	0.0001137	0.001	1	104%	90	110	0%	
Boron	A	mg/L	0.0565	0.0565		0.05	0	0	0.0036397	0.0036397	1	113%	90	110	0%	S
Cadmium	A	mg/L	0.02573	0.02573		0.025	0	0	2.969E-05	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	2.621	2.621		2.5	0	0	0.0254163	0.0254163	50	105%	90	110	0%	
Cerium	A	mg/L	0.268	0.268		0.05	0	0	8.97E-06	0.001	0.1	536%	90	110	0%	S
Chromium	A	mg/L	0.05136	0.05136		0.05	0	0	0.0002078	0.001	1	103%	90	110	0%	
Cobalt	A	mg/L	0.05186	0.05186		0.05	0	0	2.037E-05	0.001	1	104%	90	110	0%	
Copper	A	mg/L	0.05529	0.05529		0.05	0	0	0.0001010	0.001	1	111%	90	110	0%	S
Iron	A	mg/L	0.2611	0.2611		0.25	0	0	0.0021231	0.0021231	5	104%	90	110	0%	
Lanthanum	A	mg/L	1418	1418		0.05	0	0	1.209E-05	0.001	0.1	836000%	90	110	0%	S
Lead	A	mg/L	0.04869	0.04869		0.05	0	0	3.957E-05	0.001	1	97%	90	110	0%	
Lithium	A	mg/L	0.05251	0.05251		0.05	0	0	0.05	0.05	1	105%	90	110	0%	
Magnesium	A	mg/L	2.726	2.726		2.5	0	0	0.0084694	0.0084694	50	109%	90	110	0%	
Manganese	A	mg/L	0.2596	0.2596		0.25	0	0	5.319E-05	0.001	1	104%	90	110	0%	
Mercury	A	mg/L	0.00494	0.00494		0.001	0	0	7.78E-06	0.001	0.002	494%	90	110	0%	S
Molybdenum	A	mg/L	0.05039	0.05039		0.05	0	0	0.0000598	0.001	0.1	101%	90	110	0%	
Nickel	A	mg/L	0.05412	0.05412		0.05	0	0	0.0001477	0.001	1	108%	90	110	0%	
Potassium	A	mg/L	2.561	2.561		2.5	0	0	0.0951865	0.0951865	50	102%	90	110	0%	
Selenium	A	mg/L	0.05206	0.05206		0.05	0	0	6.961E-05	0.001	1	104%	90	110	0%	
Silicon	A	mg/L	0.5178	0.5178		0.5	0	0	0.0786454	0.1	0.4	104%	90	110	0%	
Silver	A	mg/L	0.02578	0.02578		0.025	0	0	1.541E-05	0.001	0.04	103%	90	110	0%	
Sodium	A	mg/L	2.748	2.748		2.5	0	0	0.0321039	0.0321039	50	110%	90	110	0%	
Strontium	A	mg/L	0.05085	0.05085		0.05	0	0	9.136E-05	0.001	1	102%	90	110	0%	
Thallium	A	mg/L	0.04772	0.04772		0.05	0	0	0.0001262	0.001	1	95%	90	110	0%	
Thorium	A	mg/L	0.04758	0.04758		0.05	0	0	7.051E-05	0.001	1	95%	90	110	0%	
Tin	A	mg/L	0.05024	0.05024		0.05	0	0	0.0021596	0.0021596	0.1	100%	90	110	0%	
Titanium	A	mg/L	0.05065	0.05065		0.05	0	0	0.0001844	0.001	1	101%	90	110	0%	
Uranium	A	mg/L	0.04954	0.04954		0.05	0	0	1.948E-05	0.0003	1	99%	90	110	0%	
Vanadium	A	mg/L	0.04864	0.04864		0.05	0	0	0.004194	0.004194	1	97%	90	110	0%	
Zinc	A	mg/L	0.05324	0.05324		0.05	0	0	0.0006119	0.001	1	106%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2611	0.2611		0	0	0	0.0021231	0.0021231	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
14980207	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 9:09:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.004678	0.004678		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00008766	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.00008239	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00002021	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00005053	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000002211	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	0.001918	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	-0.00002612	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.000005483	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	-0.00001197	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.0000158	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Magnesium	A	mg/L	0.002375	0		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	L
Manganese	A	mg/L	0.000005571	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001507	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.00001079	0		0	0	0	0.0001477	0.001	1	0%	0	0	0%	
Potassium	A	mg/L	0.00954	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	0.00004309	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.001658	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.182E-07	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	-0.01685	0		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	L
Strontium	A	mg/L	0.000001342	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.000009203	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002559	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.001778	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0.00001484	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000006767	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.00003523	0		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Lithium	B	mg/L	0.0001854	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	-0.00001197	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980208	CCV	ICPMS-6020-W-	CCV		1/14/2022 9:16:0	1	R373222		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				
14980208	CCV	ICPMS-6020-W-	CCV		1/14/2022 9:16:0	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.052	0.052		0.05	0	0	0.0006966	0.001	1	104%	90	110	0%	
Antimony	A	mg/L	0.05162	0.05162		0.05	0	0	0.0002882	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05082	0.05082		0.05	0	0	0.0001626	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05148	0.05148		0.05	0	0	8.917E-05	0.001	1	103%	90	110	0%	
Beryllium	A	mg/L	0.05071	0.05071		0.05	0	0	0.0001137	0.001	1	101%	90	110	0%	
Boron	A	mg/L	0.05335	0.05335		0.05	0	0	0.0036397	0.0036397	1	107%	90	110	0%	
Cadmium	A	mg/L	0.05126	0.05126		0.05	0	0	2.969E-05	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	12.12	12.12		12.5	0	0	0.0254163	0.0254163	50	97%	90	110	0%	
Cerium	A	mg/L	0.2482	0.2482		0.05	0	0	8.97E-06	0.001	0.1	496%	90	110	0%	S
Chromium	A	mg/L	0.05107	0.05107		0.05	0	0	0.0002078	0.001	1	102%	90	110	0%	
Cobalt	A	mg/L	0.05198	0.05198		0.05	0	0	2.037E-05	0.001	1	104%	90	110	0%	
Copper	A	mg/L	0.0546	0.0546		0.05	0	0	0.0001010	0.001	1	109%	90	110	0%	
Iron	A	mg/L	1.271	1.271		1.3	0	0	0.0021231	0.0021231	5	98%	90	110	0%	
Lanthanum	A	mg/L	0.05699	0.05699		0.05	0	0	1.209E-05	0.001	0.1	114%	90	110	0%	S
Lead	A	mg/L	0.04919	0.04919		0.05	0	0	3.957E-05	0.001	1	98%	90	110	0%	
Lithium	A	mg/L	0.6242	0.6242		0.625	0	0	0.05	0.05	1	100%	90	110	0%	
Magnesium	A	mg/L	12.83	12.83		12.5	0	0	0.0084694	0.0084694	50	103%	90	110	0%	
Manganese	A	mg/L	0.05066	0.05066		0.05	0	0	5.319E-05	0.001	1	101%	90	110	0%	
Mercury	A	mg/L	0.004759	0.004759		0.001	0	0	7.78E-06	0.001	0.002	476%	90	110	0%	S
Molybdenum	A	mg/L	0.05088	0.05088		0.05	0	0	0.0000598	0.001	0.1	102%	90	110	0%	
Nickel	A	mg/L	0.05311	0.05311		0.05	0	0	0.0001477	0.001	1	106%	90	110	0%	
Potassium	A	mg/L	12.07	12.07		12.5	0	0	0.0951865	0.0951865	50	97%	90	110	0%	
Selenium	A	mg/L	0.0518	0.0518		0.05	0	0	6.961E-05	0.001	1	104%	90	110	0%	
Silicon	A	mg/L	0.2083	0.2083		0.2	0	0	0.0786454	0.1	0.4	104%	90	110	0%	
Silver	A	mg/L	0.02028	0.02028		0.02	0	0	1.541E-05	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.9	12.9		12.5	0	0	0.0321039	0.0321039	50	103%	90	110	0%	
Strontium	A	mg/L	0.0501	0.0501		0.05	0	0	9.136E-05	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.04752	0.04752		0.05	0	0	0.0001262	0.001	1	95%	90	110	0%	
Thorium	A	mg/L	0.04845	0.04845		0.05	0	0	7.051E-05	0.001	1	97%	90	110	0%	
Tin	A	mg/L	0.05084	0.05084		0.05	0	0	0.0021596	0.0021596	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.05199	0.05199		0.05	0	0	0.0001844	0.001	1	104%	90	110	0%	
Uranium	A	mg/L	0.04867	0.04867		0.05	0	0	1.948E-05	0.0003	1	97%	90	110	0%	
Vanadium	A	mg/L	0.04883	0.04883		0.05	0	0	0.004194	0.004194	1	98%	90	110	0%	
Zinc	A	mg/L	0.05347	0.05347		0.05	0	0	0.0006119	0.001	1	107%	90	110	0%	
Iron, Ferrous	C	mg/L	1.271	1.271		0	0	0	0.0021231	0.0021231	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			
14980209	CCB	ICPMS-6020-W-	CCB		1/14/2022 9:22:1	1	R373222		0	0				

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.00000935	-0.00000935		0	0	0	0.0006966	0.001	1	0%			0%	
Antimony	A	mg/L	0.00006441	0.00006441		0	0	0	0.0002882	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.00002654	-0.00002654		0	0	0	0.0001626	0.001	1	0%			0%	
Barium	A	mg/L	-4.509E-06	-4.509E-06		0	0	0	8.917E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00003311	0.00003311		0	0	0	0.0001137	0.001	1	0%			0%	
Boron	A	mg/L	0.001746	0.001746		0	0	0	0.0036397	0.0036397	1	0%			0%	
Cadmium	A	mg/L	0.000002751	0.000002751		0	0	0	2.969E-05	0.001	1	0%			0%	
Calcium	A	mg/L	0.001998	0.001998		0	0	0	0.0254163	0.0254163	50	0%			0%	
Cerium	A	mg/L	-3.408E-06	-3.408E-06		0	0	0	8.97E-06	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.00003545	-0.00003545		0	0	0	0.0002078	0.001	1	0%			0%	
Cobalt	A	mg/L	-2.321E-06	-2.321E-06		0	0	0	2.037E-05	0.001	1	0%			0%	
Copper	A	mg/L	-0.00001419	-0.00001419		0	0	0	0.0001010	0.001	1	0%			0%	
Iron	A	mg/L	-9.927E-06	-9.927E-06		0	0	0	0.0021231	0.0021231	5	0%			0%	
Lanthanum	A	mg/L	0.0244	0.0244		0	0	0	1.209E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.00001031	0.00001031		0	0	0	3.957E-05	0.001	1	0%			0%	
Lithium	A	mg/L	0.0005854	0.0005854		0	0	0	0.05	0.05	1	0%			0%	
Magnesium	A	mg/L	0.0003955	0.0003955		0	0	0	0.0084694	0.0084694	50	0%			0%	
Manganese	A	mg/L	0.000002209	0.000002209		0	0	0	5.319E-05	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001121	0.00001121		0	0	0	7.78E-06	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00001302	0.00001302		0	0	0	0.0000598	0.001	0.1	0%			0%	
Nickel	A	mg/L	-8.759E-06	-8.759E-06		0	0	0	0.0001477	0.001	1	0%			0%	
Potassium	A	mg/L	0.01439	0.01439		0	0	0	0.0951865	0.0951865	50	0%			0%	
Selenium	A	mg/L	0.00003213	0.00003213		0	0	0	6.961E-05	0.001	1	0%			0%	
Silicon	A	mg/L	-0.0004185	-0.0004185		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000002513	0.000002513		0	0	0	1.541E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.0179	-0.0179		0	0	0	0.0321039	0.0321039	50	0%			0%	
Strontium	A	mg/L	-0.00001044	-0.00001044		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002448	0.0002448		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002039	0.00002039		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00001663	0.00001663		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	
Titanium	A	mg/L	-7.852E-07	-7.852E-07		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000004031	0.000004031		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.001811	-0.001811		0	0	0	0.004194	0.004194	1	0%	0	0	0%	
Zinc	A	mg/L	0.00002376	0.00002376		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-9.927E-06	-9.927E-06		0	0	0	0.0021231	0.0021231	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
14980210	B22010641-001	ICPMS-6020-W-	SAMP		1/14/2022 9:34:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00007528	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Barium	A	mg/L	0.009831	0.009831		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003873	0.00003873		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00003316	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0002319	0.0002319		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0006498	0.0006498		0	0	0	0.00033	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006289	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Thallium	A	mg/L	0.0006368	0.0006368		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	-2.358E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000032	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	0.001651	0.001651		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.001651	0.001651		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-0.00004043	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
14980211	B22010641-001	ICPMS-6020-W-	SAMP		1/14/2022 9:40:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0000798	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0007902	0.0007902		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.01008	0.01008		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00002279	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cadmium	A	mg/L	0.00001449	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0004363	0.0004363		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00005253	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.01126	0.01126		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.001057	0.001057		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.000718	0.000718		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006247	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1486	0.1486		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00009488	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001578	0.001578		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00003333	0.00003333		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	20.17	20.17		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001351	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980211	B22010641-001	ICPMS-6020-W-	SAMP		1/14/2022 9:40:5	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	B	mg/L	0.01747	0.01747		0	0	0	0.007424	0.00513	5	0%	0	0	0%	DU
Magnesium	B	mg/L	21.6	21.6		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.001716	0.001716		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	JL
Potassium	B	mg/L	2.311	2.311		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00004698	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0003695	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Zinc	B	mg/L	0.00288	0.00288		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980212	B22010643-001	ICPMS-6020-W-	SAMP		1/14/2022 9:47:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.000009088	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Barium	A	mg/L	0.01357	0.01357		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00006636	0.00006636		0	0	0	0.000025	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0001395	0.0001395		0	0	0	0.000042	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00001793	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	U
Molybdenum	A	mg/L	0.0002322	0.0002322		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0009892	0.0009892		0	0	0	0.00033	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-0.00006042	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.1693	0.1693		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00006263	0.00006263		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	-2.772E-06	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00002851	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	0.01761	0.01761		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.01761	0.01761		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Tin	B	mg/L	-0.00005463	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
14980213	B22010643-001	ICPMS-6020-W-	SAMP		1/14/2022 9:53:2	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00006422	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0009236	0.0009236		0	0	0	0.0003412	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
14980213	B22010643-001	ICPMS-6020-W-	SAMP		1/14/2022 9:53:2	1	162926	1/14/2022 8:	0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.01356	0.01356		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00002013	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	U
Cadmium	A	mg/L	0.00005737	0.00005737		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0002543	0.0002543		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00004269	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.0493	0.0493		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0004818	0.0004818		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.001018	0.001018		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-0.00005994	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1651	0.1651		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-0.00001536	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001575	0.001575		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00003189	0.00003189		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	22.21	22.21		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.00161	0.00161		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.1277	0.1277		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	23.9	23.9		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.00406	0.00406		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	D
Potassium	B	mg/L	2.199	2.199		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	D
Thorium	B	mg/L	0.00003475	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Tin	B	mg/L	0.0004356	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	U
Zinc	B	mg/L	0.005362	0.005362		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980214	B22010750-001	ICPMS-6020-W-	SAMP		1/14/2022 9:59:3	1	R373222		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
14980215	B22010750-001	ICPMS-6020-W-	SD		1/14/2022 10:05:	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001095	0.005475		0	0	0.001001	0.0043	0.0043	1	0%				N
Antimony	A	mg/L	0.00002564	0		0	0	0	0.0021	0.0021	0.1	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980215	B22010750-001	ICPMS-6020-W-	SD		1/14/2022 10:05:	5	R373222		0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Arsenic	A	mg/L	0.0004986	0.002493		0	0	0.0007098	0.00095	0.001	1	0%				N
Barium	A	mg/L	0.01317	0.06585		0	0	0.06356	0.00021	0.001	1	0%			4%	
Beryllium	A	mg/L	-0.00000217	0		0	0	0	0.0006	0.001	1	0%				
Boron	A	mg/L	0.01173	0.05865		0	0	0.04863	0.02805	0.02805	1	0%				N
Cadmium	A	mg/L	0.00002385	0		0	0	4.602E-05	0.000125	0.001	1	0%				
Calcium	A	mg/L	28.73	143.65		0	0	142	0.1046	0.1046	50	0%			1%	
Cerium	A	mg/L	0.000007656	0		0	0	0	0.00006	0.001	0.1	0%				
Chromium	A	mg/L	0.001269	0.006345		0	0	0.007538	0.0009	0.001	1	0%				N
Cobalt	A	mg/L	0.0001512	0.000756		0	0	0.0006387	0.00021	0.001	1	0%				N
Copper	A	mg/L	0.0002893	0.0014465		0	0	0.0008099	0.00135	0.00135	1	0%				N
Iron	A	mg/L	0.00473	0.02365		0	0	0.02009	0.00595	0.00595	5	0%				N
Lanthanum	A	mg/L	0.05589	0.27945		0	0	0.03854	0.000055	0.001	0.1	0%			152%	R
Lead	A	mg/L	0.00002361	0		0	0	0	0.00028	0.001	1	0%				
Magnesium	A	mg/L	51.96	259.8		0	0	260.6	0.0282	0.0282	50	0%			0%	
Manganese	A	mg/L	0.0005706	0.002853		0	0	0.002605	0.000475	0.001	1	0%				N
Mercury	A	mg/L	0.00002107	0		0	0	0	0.0008	0.001	0.002	0%				
Molybdenum	A	mg/L	0.0002274	0.001137		0	0	0.0009677	0.00025	0.001	0.1	0%				N
Nickel	A	mg/L	0.01087	0.05435		0	0	0.05617	0.00315	0.00315	1	0%			3%	
Potassium	A	mg/L	1.482	7.41		0	0	7.366	0.40695	0.40695	50	0%			1%	
Selenium	A	mg/L	0.0009527	0.0047635		0	0	0.004484	0.00165	0.00165	1	0%				N
Silicon	A	mg/L	5.931	29.655		0	0	28.15	0.06115	0.1	0.4	0%			5%	
Silver	A	mg/L	-0.00006401	0		0	0	0	0.0001	0.001	0.04	0%				
Sodium	A	mg/L	78.38	391.9		0	0	383.6	0.10855	0.10855	50	0%			2%	
Strontium	A	mg/L	0.3643	1.8215		0	0	1.892	0.0007	0.001	1	0%			4%	
Thallium	A	mg/L	-0.00006898	0		0	0	0	0.000205	0.001	1	0%				
Thorium	A	mg/L	0.000001527	0		0	0	0	0.00305	0.00305	1	0%				
Tin	A	mg/L	0.00008392	0		0	0	0	0.0066	0.0066	0.1	0%				
Titanium	A	mg/L	0.0004754	0.002377		0	0	0.001729	0.00047	0.001	1	0%				N
Uranium	A	mg/L	0.00003802	0		0	0	7.601E-05	0.00026	0.0003	1	0%				
Vanadium	A	mg/L	0.001074	0		0	0	0.004244	0.0065	0.0065	1	0%				
Zinc	A	mg/L	0.001123	0		0	0	0	0.01365	0.01365	1	0%				
Iron, Ferrous	C	mg/L	0.00473	0.02365		0	0	0	0.00595	0.00595	5	0%				N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980216	B22010750-001	ICPMS-6020-W- MS			1/14/2022 10:12:	1.03	R373222		1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04936	0.0508408		0.05	0.001001	0	0.0008858	0.001	1	100%	75	125	0%	
Antimony	A	mg/L	0.04622	0.0476066		0.05	0	0	0.0004326	0.001	0.1	95%	75	125	0%	
Arsenic	A	mg/L	0.04909	0.0505627		0.05	0.0007098	0	0.0001957	0.001	1	100%	75	125	0%	
Barium	A	mg/L	0.1177	0.121231		0.05	0.06356	0	4.326E-05	0.001	1	115%	75	125	0%	
Beryllium	A	mg/L	0.04334	0.0446402		0.05	0	0	0.0001236	0.001	1	89%	75	125	0%	
Boron	A	mg/L	0.08736	0.0899808		0.05	0.04863	0	0.0057783	0.0057783	1	83%	75	125	0%	
Cadmium	A	mg/L	0.04785	0.0492855		0.05	4.602E-05	0	2.575E-05	0.001	1	98%	75	125	0%	
Calcium	A	mg/L	191.6	197.348		50	142	0	0.0215476	0.0215476	50	111%	75	125	0%	E
Cerium	A	mg/L	0.2365	0.243595		0.05	0	0	1.236E-05	0.001	0.1	487%	75	125	0%	SE
Chromium	A	mg/L	0.05403	0.0556509		0.05	0.007538	0	0.0001854	0.001	1	96%	75	125	0%	
Cobalt	A	mg/L	0.04938	0.0508614		0.05	0.0006387	0	4.326E-05	0.001	1	100%	75	125	0%	
Copper	A	mg/L	0.04597	0.0473491		0.05	0.0008099	0	0.0002781	0.001	1	93%	75	125	0%	
Iron	A	mg/L	5.001	5.15103		5.05	0.02009	0	0.0012257	0.0012257	5	102%	75	125	0%	E
Lanthanum	A	mg/L	0.1808	0.186224		0.05	0.03854	0	1.133E-05	0.001	0.1	295%	75	125	0%	SE
Lead	A	mg/L	0.04782	0.0492546		0.05	0	0	5.768E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	285.2	293.756		50	260.6	0	0.0058092	0.0058092	50		75	125	0%	AE
Manganese	A	mg/L	0.05028	0.0517884		0.05	0.002605	0	9.785E-05	0.001	1	98%	75	125	0%	
Mercury	A	mg/L	0.004806	0.00495018		0.001	0	0	0.0001648	0.001	0.002	495%	75	125	0%	SE
Molybdenum	A	mg/L	0.04965	0.0511395		0.05	0.0009677	0	0.0000515	0.001	0.1	100%	75	125	0%	
Nickel	A	mg/L	0.09779	0.1007237		0.05	0.05617	0	0.0006489	0.001	1	89%	75	125	0%	
Potassium	A	mg/L	57.89	59.6267		50	7.366	0	0.0838317	0.0838317	50	105%	75	125	0%	E
Selenium	A	mg/L	0.05217	0.0537351		0.05	0.004484	0	0.0003399	0.001	1	99%	75	125	0%	
Silicon	A	mg/L	28.19	29.0357		0.2	28.15	0	0.0125969	0.1	0.4		75	125	0%	AE
Silver	A	mg/L	0.01948	0.0200644		0.02	0	0	0.0000206	0.001	0.04	100%	75	125	0%	
Sodium	A	mg/L	402	414.06		50	383.6	0	0.0223613	0.0223613	50		75	125	0%	AE
Strontium	A	mg/L	1.911	1.96833		0.05	1.892	0	0.0001442	0.001	1		75	125	0%	AE
Thallium	A	mg/L	0.04633	0.0477199		0.05	0	0	4.223E-05	0.001	1	95%	75	125	0%	
Thorium	A	mg/L	0.0463	0.047689		0.05	0	0	0.0006283	0.001	1	95%	75	125	0%	
Tin	A	mg/L	0.04827	0.0497181		0.05	0	0	0.0013596	0.0013596	0.1	99%	75	125	0%	
Titanium	A	mg/L	0.05655	0.0582465		0.05	0.001729	0	9.682E-05	0.001	1	113%	75	125	0%	
Uranium	A	mg/L	0.0497	0.051191		0.05	7.601E-05	0	5.356E-05	0.0003	1	102%	75	125	0%	
Vanadium	A	mg/L	0.05579	0.0574637		0.05	0.004244	0	0.001339	0.001339	1	106%	75	125	0%	
Zinc	A	mg/L	0.04752	0.0489456		0.05	0	0	0.0028119	0.0028119	1	98%	75	125	0%	
Iron, Ferrous	C	mg/L	5.001	5.15103		0	0	0	0.0012257	0.0012257	5	0%	0	0	0%	E

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980217	B22010750-001	ICPMS-6020-W-	MSD		1/14/2022 10:18:	1.03	R373222		1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04895	0.0504185		0.05	0.001001	0.0508408	0.0008858	0.001	1	99%	75	125	1%	
Antimony	A	mg/L	0.0451	0.046453		0.05	0	0.0476066	0.0004326	0.001	0.1	93%	75	125	2%	
Arsenic	A	mg/L	0.04885	0.0503155		0.05	0.0007098	0.0505627	0.0001957	0.001	1	99%	75	125	0%	
Barium	A	mg/L	0.1126	0.115978		0.05	0.06356	0.121231	4.326E-05	0.001	1	105%	75	125	4%	
Beryllium	A	mg/L	0.04311	0.0444033		0.05	0	0.0446402	0.0001236	0.001	1	89%	75	125	1%	
Boron	A	mg/L	0.08549	0.0880547		0.05	0.04863	0.0899808	0.0057783	0.0057783	1	79%	75	125	2%	
Cadmium	A	mg/L	0.04695	0.0483585		0.05	4.602E-05	0.0492855	2.575E-05	0.001	1	97%	75	125	2%	
Calcium	A	mg/L	190.4	196.112		50	142	197.348	0.0215476	0.0215476	50	108%	75	125	1%	E
Cerium	A	mg/L	0.2325	0.239475		0.05	0	0.243595	1.236E-05	0.001	0.1	479%	75	125	2%	SE
Chromium	A	mg/L	0.05256	0.0541368		0.05	0.007538	0.0556509	0.0001854	0.001	1	93%	75	125	3%	
Cobalt	A	mg/L	0.04757	0.0489971		0.05	0.0006387	0.0508614	4.326E-05	0.001	1	97%	75	125	4%	
Copper	A	mg/L	0.04552	0.0468856		0.05	0.0008099	0.0473491	0.0002781	0.001	1	92%	75	125	1%	
Iron	A	mg/L	5.013	5.16339		5.05	0.02009	5.15103	0.0012257	0.0012257	5	102%	75	125	0%	E
Lanthanum	A	mg/L	0.1216	0.125248		0.05	0.03854	0.186224	1.133E-05	0.001	0.1	173%	75	125	39%	SRE
Lead	A	mg/L	0.04746	0.0488838		0.05	0	0.0492546	5.768E-05	0.001	1	98%	88	115	1%	
Magnesium	A	mg/L	285.9	294.477		50	260.6	293.756	0.0058092	0.0058092	50		75	125	0%	AE
Manganese	A	mg/L	0.05081	0.0523343		0.05	0.002605	0.0517884	9.785E-05	0.001	1	99%	75	125	1%	
Mercury	A	mg/L	0.004936	0.00508408		0.001	0	0.0049502	0.0001648	0.001	0.002	508%	75	125	3%	SE
Molybdenum	A	mg/L	0.04911	0.0505833		0.05	0.0009677	0.0511395	0.0000515	0.001	0.1	99%	75	125	1%	
Nickel	A	mg/L	0.09514	0.0979942		0.05	0.05617	0.1007237	0.0006489	0.001	1	84%	75	125	3%	
Potassium	A	mg/L	58.58	60.3374		50	7.366	59.6267	0.0838317	0.0838317	50	106%	75	125	1%	E
Selenium	A	mg/L	0.05209	0.0536527		0.05	0.004484	0.0537351	0.0003399	0.001	1	98%	75	125	0%	
Silicon	A	mg/L	28.36	29.2108		0.2	28.15	29.0357	0.0125969	0.1	0.4		75	125	1%	AE
Silver	A	mg/L	0.01904	0.0196112		0.02	0	0.0200644	0.0000206	0.001	0.04	98%	75	125	2%	
Sodium	A	mg/L	404.3	416.429		50	383.6	414.06	0.0223613	0.0223613	50		75	125	1%	AE
Strontium	A	mg/L	1.957	2.01571		0.05	1.892	1.96833	0.0001442	0.001	1		75	125	2%	AE
Thallium	A	mg/L	0.0464	0.047792		0.05	0	0.0477199	4.223E-05	0.001	1	96%	75	125	0%	
Thorium	A	mg/L	0.04755	0.0489765		0.05	0	0.047689	0.0006283	0.001	1	98%	75	125	3%	
Tin	A	mg/L	0.04638	0.0477714		0.05	0	0.0497181	0.0013596	0.0013596	0.1	96%	75	125	4%	
Titanium	A	mg/L	0.05442	0.0560526		0.05	0.001729	0.0582465	9.682E-05	0.001	1	109%	75	125	4%	
Uranium	A	mg/L	0.04966	0.0511498		0.05	7.601E-05	0.051191	5.356E-05	0.0003	1	102%	75	125	0%	
Vanadium	A	mg/L	0.05748	0.0592044		0.05	0.004244	0.0574637	0.001339	0.001339	1	110%	75	125	3%	
Zinc	A	mg/L	0.0476	0.049028		0.05	0	0.0489456	0.0028119	0.0028119	1	98%	75	125	0%	
Iron, Ferrous	C	mg/L	5.013	5.16339		0	0	5.15103	0.0012257	0.0012257	5	0%	0	0	0%	E

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980218	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 10:24:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.005479	0.005479		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0006057	0.0006057		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.0005194	0.0005194		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.00002459	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00001484	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000003609	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.0005651	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-2.554E-06	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.000005704	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00001605	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00003747	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.0001101	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0000318	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	0.000002297	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.00003579	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001033	0.0001033		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00002547	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.000187	0.000187		0	0	0	0.000094	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.000005646	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	-0.0003103	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0003103	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	1.633	1.633		0	0	0	0.00564	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	0.0283	0.0283		0	0	0	0.02171	0.02171	50	0%	0	0	0%	D
Tin	B	mg/L	0.00181	0.00181		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Zinc	B	mg/L	-0.00002062	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980219	B22010750-001	ICPMS-6020-W-	SAMP		1/14/2022 10:30:	1	162926	1/14/2022 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				
14980220	CCV	ICPMS-6020-W-	CCV		1/14/2022 10:37:	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05482	0.05482		0.05	0	0	0.00086	0.001	1	110%	90	110	0%	
Antimony	A	mg/L	0.05169	0.05169		0.05	0	0	0.00042	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05076	0.05076		0.05	0	0	0.00019	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05118	0.05118		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Beryllium	A	mg/L	0.04798	0.04798		0.05	0	0	0.00012	0.001	1	96%	90	110	0%	
Boron	A	mg/L	0.04528	0.04528		0.05	0	0	0.00561	0.00561	1	91%	90	110	0%	
Cadmium	A	mg/L	0.05078	0.05078		0.05	0	0	0.000025	0.001	1	102%	90	110	0%	
Calcium	A	mg/L	13.45	13.45		12.5	0	0	0.02092	0.02092	50	108%	90	110	0%	
Cerium	A	mg/L	0.2326	0.2326		0.05	0	0	0.000012	0.001	0.1	465%	90	110	0%	S
Chromium	A	mg/L	0.04903	0.04903		0.05	0	0	0.00018	0.001	1	98%	90	110	0%	
Cobalt	A	mg/L	0.05146	0.05146		0.05	0	0	0.000042	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.04873	0.04873		0.05	0	0	0.00027	0.001	1	97%	90	110	0%	
Iron	A	mg/L	1.318	1.318		1.3	0	0	0.00119	0.00119	5	101%	90	110	0%	
Lanthanum	A	mg/L	1.33	1.33		0.05	0	0	0.000011	0.001	0.1	2660%	90	110	0%	S
Lead	A	mg/L	0.05059	0.05059		0.05	0	0	0.000056	0.001	1	101%	90	110	0%	
Magnesium	A	mg/L	12.57	12.57		12.5	0	0	0.00564	0.00564	50	101%	90	110	0%	
Manganese	A	mg/L	0.05228	0.05228		0.05	0	0	0.000095	0.001	1	105%	90	110	0%	
Mercury	A	mg/L	0.004558	0.004558		0.001	0	0	0.00016	0.001	0.002	456%	90	110	0%	S
Molybdenum	A	mg/L	0.05186	0.05186		0.05	0	0	0.00005	0.001	0.1	104%	90	110	0%	
Nickel	A	mg/L	0.04901	0.04901		0.05	0	0	0.00063	0.001	1	98%	90	110	0%	
Potassium	A	mg/L	13.54	13.54		12.5	0	0	0.08139	0.08139	50	108%	90	110	0%	
Selenium	A	mg/L	0.05107	0.05107		0.05	0	0	0.00033	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.2331	0.2331		0.2	0	0	0.01223	0.1	0.4	117%	90	110	0%	S
Silver	A	mg/L	0.02026	0.02026		0.02	0	0	0.00002	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.05	12.05		12.5	0	0	0.02171	0.02171	50	96%	90	110	0%	
Strontium	A	mg/L	0.05437	0.05437		0.05	0	0	0.00014	0.001	1	109%	90	110	0%	
Thallium	A	mg/L	0.04907	0.04907		0.05	0	0	0.000041	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.0475	0.0475		0.05	0	0	0.00061	0.001	1	95%	90	110	0%	
Tin	A	mg/L	0.05114	0.05114		0.05	0	0	0.00132	0.00132	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.05422	0.05422		0.05	0	0	0.000094	0.001	1	108%	90	110	0%	
Uranium	A	mg/L	0.05174	0.05174		0.05	0	0	0.000052	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.05257	0.05257		0.05	0	0	0.0013	0.0013	1	105%	90	110	0%	
Zinc	A	mg/L	0.0508	0.0508		0.05	0	0	0.00273	0.00273	1	102%	90	110	0%	
Iron, Ferrous	C	mg/L	1.318	1.318		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
14980221	CCB	ICPMS-6020-W-	CCB		1/14/2022 10:43:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-9.024E-06	-9.024E-06		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.0001168	0.0001168		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0005539	0.0005539		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	0.000007654	0.000007654		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.000009472	0.000009472		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.0002874	0.0002874		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.000005643	0.000005643		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.02758	0.02758		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	-8.234E-07	-8.234E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0006059	-0.0006059		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-1.974E-06	-1.974E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.000142	0.000142		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	-0.0004564	-0.0004564		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	0.004809	0.004809		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000007531	0.000007531		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.005733	0.005733		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-4.418E-07	-4.418E-07		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001431	0.00001431		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002089	0.00002089		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.0001177	-0.0001177		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.08486	0.08486		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00002399	0.00002399		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.004069	0.004069		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000004048	0.000004048		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.001928	-0.001928		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	-7.201E-06	-7.201E-06		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001985	0.0001985		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001714	0.00001714		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00002732	0.00002732		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0001243	0.0001243		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000004633	0.000004633		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.003806	0.003806		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-0.00002114	-0.00002114		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0004564	-0.0004564		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
14980222	B22010751-001	ICPMS-6020-W-	SAMP		1/14/2022 10:49:	1	R373222		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
14980223	B22010751-001	ICPMS-6020-W-	SAMP		1/14/2022 10:55:	1	162926	1/14/2022 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
14980224	B22010751-001	ICPMS-6020-W-	SD		1/14/2022 11:02:	5	162926	1/14/2022 8:	0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.02709	0.13545		0	0	0.1328	0.0193736	0.0159875	1	0%	0	0		N
Antimony	A	mg/L	0.00007015	0		0	0	0.000327	0.0013997	0.0049	0.1	0%	0	0		
Arsenic	A	mg/L	0.0007648	0.003824		0	0	0.001985	0.0017061	0.0013383	1	0%	0	0		N
Barium	A	mg/L	0.01491	0.07455		0	0	0.07638	0.0013411	0.0012039	1	0%	0	0	2%	
Beryllium	A	mg/L	0.0002541	0.0012705		0	0	0	0.0005353	0.01	1	0%	0	0		N
Boron	A	mg/L	0.0443	0.2215		0	0	0.2231	0.1019008	0.07335	1	0%	0	0		N
Cadmium	A	mg/L	0.00001945	0.00009725		0	0	8.211E-05	9.105E-05	0.005	1	0%	0	0		N
Calcium	A	mg/L	10.09	50.45		0	0	49.08	0.1864681	0.5517403	50	0%	0	0	3%	
Cerium	A	mg/L	0.0001428	0.000714		0	0	0.000973	0.0001369	0.001	0.1	0%	0	0		N
Chromium	A	mg/L	-0.0001454	0		0	0	0	0.0076875	0.0076875	1	0%	0	0		
Cobalt	A	mg/L	0.0002195	0.0010975		0	0	0.001098	0.0004771	0.001	1	0%	0	0		N
Copper	A	mg/L	0.001129	0.005645		0	0	0.004621	0.0043735	0.0099	1	0%	0	0		N
Iron	A	mg/L	0.05786	0.2893		0	0	0.2964	0.0371198	0.02565	5	0%	0	0		N
Lanthanum	A	mg/L	0.3843	1.9215		0	0	1.785	0.000275	0.001	0.1	0%	0	0	7%	
Lead	A	mg/L	0.0002916	0.001458		0	0	0.001481	0.0003858	0.001	1	0%	0	0		N
Magnesium	A	mg/L	9.212	46.06		0	0	45.32	0.0521269	0.0407608	50	0%	0	0	2%	
Manganese	A	mg/L	0.02805	0.14025		0	0	0.137	0.0026994	0.0010695	1	0%	0	0	2%	
Molybdenum	A	mg/L	0.0003543	0.0017715		0	0	0.001805	0.0008814	0.001	0.1	0%	0	0		N
Nickel	A	mg/L	0.001356	0.00678		0	0	0.007038	0.0011441	0.0121000	1	0%	0	0		N
Potassium	A	mg/L	0.9072	4.536		0	0	4.206	0.3828097	0.1306027	50	0%	0	0	8%	
Selenium	A	mg/L	0.001064	0.00532		0	0	0.00541	0.0006787	0.0029274	1	0%	0	0		N
Silicon	A	mg/L	3.725	18.625		0	0	18.99	0.2110446	0.026606	0.4	0%	0	0	2%	
Silver	A	mg/L	-0.00006333	0		0	0	0	0.0002141	0.001	0.04	0%	0	0		
Sodium	A	mg/L	28.05	140.25		0	0	142	0.5097304	3.6651346	50	0%	0	0	1%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980224	B22010751-001	ICPMS-6020-W-	SD		1/14/2022 11:02:	5	162926	1/14/2022 8:	0	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	0.07539	0.37695		0	0	0.3781	0.0012164	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-0.00008849	0		0	0	0	0.0005569	0.001	1	0%	0	0		
Thorium	A	mg/L	0.00000487	0		0	0	0	0.0018981	0.02075	1	0%	0	0		
Tin	A	mg/L	0.0001275	0		0	0	0	0.0094659	0.0055874	0.1	0%	0	0		
Titanium	A	mg/L	0.001974	0.00987		0	0	0.009315	0.0028666	0.001	1	0%	0	0		N
Uranium	A	mg/L	0.00006821	0.00034105		0	0	0.0002876	8.495E-05	0.0004224	1	0%	0	0		N
Vanadium	A	mg/L	0.005399	0.026995		0	0	0.01768	0.0195637	0.0105423	1	0%	0	0		N
Zinc	A	mg/L	0.003331	0.016655		0	0	0.01264	0.0058087	0.0327721	1	0%	0	0		N
Silica	C	mg/L	7.96852	39.8426		0	0	0	0.4514666	0.0569155	5	0%	0	0		N
Silicon as SiO2	C	mg/L	7.96852	39.8426		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
14980225	B22010751-001	ICPMS-6020-W-	PDS1		1/14/2022 11:08:	1.03	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.1701	0.175203		0.0515	0.1328	0	0.003991	0.0032934	1	82%	75	125	0%	
Antimony	A	mg/L	0.04492	0.0462676		0.0515	0.000327	0	0.0002883	0.0010094	0.1	89%	75	125	0%	
Arsenic	A	mg/L	0.04957	0.0510571		0.0515	0.001985	0	0.0003514	0.001	1	95%	75	125	0%	
Barium	A	mg/L	0.1206	0.124218		0.0515	0.07638	0	0.0002763	0.001	1	93%	75	125	0%	
Beryllium	A	mg/L	0.04268	0.0439604		0.0515	0	0	0.0001103	0.01	1	85%	75	125	0%	
Boron	A	mg/L	0.2515	0.259045		0.0515	0.2231	0	0.0209916	0.0151101	1		75	125	0%	A
Cadmium	A	mg/L	0.04583	0.0472049		0.0515	8.211E-05	0	1.876E-05	0.005	1	92%	75	125	0%	
Calcium	A	mg/L	101.2	104.236		51.5	49.08	0	0.0384124	0.1136585	50	107%	75	125	0%	
Cerium	A	mg/L	0.2335	0.240505		0.0515	0.000973	0	2.820E-05	0.001	0.1	465%	75	125	0%	S
Chromium	A	mg/L	0.0471	0.048513		0.0515	0	0	0.0015836	0.0015836	1	94%	75	125	0%	
Cobalt	A	mg/L	0.04197	0.0432291		0.0515	0.001098	0	9.827E-05	0.001	1	82%	75	125	0%	
Copper	A	mg/L	0.0495	0.050985		0.0515	0.004621	0	0.0009009	0.0020394	1	90%	75	125	0%	
Iron	A	mg/L	5.445	5.60835		5.15	0.2964	0	0.0076467	0.0052839	5	103%	75	125	0%	
Lanthanum	A	mg/L	1.894	1.95082		0.0515	1.785	0	5.665E-05	0.001	0.1		75	125	0%	A
Lead	A	mg/L	0.04567	0.0470401		0.0515	0.001481	0	7.947E-05	0.001	1	88%	88	115	0%	
Magnesium	A	mg/L	92.66	95.4398		51.5	45.32	0	0.0107381	0.0083967	50	97%	75	125	0%	
Manganese	A	mg/L	0.1808	0.186224		0.0515	0.137	0	0.0005561	0.001	1	96%	75	125	0%	
Molybdenum	A	mg/L	0.0488	0.050264		0.0515	0.001805	0	0.0001816	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.0514	0.052942		0.0515	0.007038	0	0.0002357	0.0024926	1	89%	75	125	0%	
Potassium	A	mg/L	54.81	56.4543		51.5	4.206	0	0.0788588	0.0269042	50	101%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980225	B22010751-001	ICPMS-6020-W-	PDS1		1/14/2022 11:08:	1.03	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0.05395	0.0555685		0.0515	0.00541	0	0.0001398	0.001	1	97%	75	125	0%	
Silicon	A	mg/L	20.22	20.8266		0.206	18.99	0	0.0434752	0.0054808	0.4		0	0	0%	A
Silver	A	mg/L	0.01876	0.0193228		0.0206	0	0	4.409E-05	0.001	0.04	94%	75	125	0%	
Sodium	A	mg/L	186.9	192.507		51.5	142	0	0.1050045	0.7550177	50	98%	75	125	0%	
Strontium	A	mg/L	0.4265	0.439295		0.0515	0.3781	0	0.0002506	0.001	1		75	125	0%	A
Thallium	A	mg/L	0.04524	0.0465972		0.0515	0	0	0.0001147	0.001	1	90%	75	125	0%	
Thorium	A	mg/L	0.0462	0.047586		0.0515	0	0	0.000391	0.0042745	1	92%	75	125	0%	
Tin	A	mg/L	0.04666	0.0480598		0.0515	0	0	0.00195	0.001151	0.1	93%	75	125	0%	
Titanium	A	mg/L	0.0555	0.057165		0.0515	0.009315	0	0.0005905	0.001	1	93%	75	125	0%	
Uranium	A	mg/L	0.04754	0.0489662		0.0515	0.0002876	0	1.75E-05	0.0003	1	95%	75	125	0%	
Vanadium	A	mg/L	0.06792	0.0699576		0.0515	0.01768	0	0.0040301	0.0021717	1	102%	75	125	0%	
Zinc	A	mg/L	0.05847	0.0602241		0.0515	0.01264	0	0.0011966	0.0067511	1	92%	75	125	0%	
Silica	C	mg/L	43.254624	44.55226272		0	0	0	0.0930021	0.0117246	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	43.254624	44.55226272		0.0515	0	0	0.0930021	0.0117246	5	86509%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980226	B22010751-001	ICPMS-6020-W-	MS4		1/14/2022 11:14:	1	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.6596	0.6596		0.5	0.1328	0	0.0038747	0.0031975	1	105%	75	125	0%	
Antimony	A	mg/L	0.1043	0.1043		0.1	0.000327	0	0.0002799	0.001	0.1	104%	75	125	0%	
Arsenic	A	mg/L	0.09882	0.09882		0.1	0.001985	0	0.0003412	0.001	1	97%	75	125	0%	
Barium	A	mg/L	0.1755	0.1755		0.1	0.07638	0	0.0002682	0.001	1	99%	75	125	0%	
Beryllium	A	mg/L	0.0463	0.0463		0.05	0	0	0.0001071	0.01	1	93%	75	125	0%	
Boron	A	mg/L	0.3026	0.3026		0.1	0.2231	0	0.0203802	0.01467	1	80%	75	125	0%	
Cadmium	A	mg/L	0.04788	0.04788		0.05	8.211E-05	0	1.821E-05	0.005	1	96%	75	125	0%	
Calcium	A	mg/L	54.71	54.71		5	49.08	0	0.0372936	0.1103481	50		75	125	0%	A
Cerium	A	mg/L	0.4833	0.4833		0.1	0.000973	0	2.738E-05	0.001	0.1	482%	75	125	0%	S
Chromium	A	mg/L	0.09613	0.09613		0.1	0	0	0.0015375	0.0015375	1	96%	75	125	0%	
Cobalt	A	mg/L	0.09288	0.09288		0.1	0.001098	0	9.541E-05	0.001	1	92%	75	125	0%	
Copper	A	mg/L	0.09798	0.09798		0.1	0.004621	0	0.0008747	0.00198	1	93%	75	125	0%	
Iron	A	mg/L	0.7786	0.7786		0.5	0.2964	0	0.007424	0.00513	5	96%	75	125	0%	
Lanthanum	A	mg/L	2676	2676		0.1	1.785	0	0.000055	0.001	0.1		75	125	0%	A
Lead	A	mg/L	0.1001	0.1001		0.1	0.001481	0	7.716E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	50.19	50.19		5	45.32	0	0.0104254	0.0081522	50		75	125	0%	A

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980226	B22010751-001	ICPMS-6020-W-	MS4		1/14/2022 11:14:	1	162926	1/14/2022 8:	1E+07	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.6381	0.6381		0.5	0.137	0	0.0005399	0.001	1	100%	75	125	0%	
Molybdenum	A	mg/L	0.1025	0.1025		0.1	0.001805	0	0.0001763	0.001	0.1	101%	75	125	0%	
Nickel	A	mg/L	0.1045	0.1045		0.1	0.007038	0	0.0002288	0.0024200	1	97%	75	125	0%	
Potassium	A	mg/L	9.446	9.446		5	4.206	0	0.0765619	0.0261205	50	105%	75	125	0%	
Selenium	A	mg/L	0.1034	0.1034		0.1	0.00541	0	0.0001357	0.001	1	98%	75	125	0%	
Silicon	A	mg/L	19.89	19.89		1	18.99	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009471	0.009471		0.01	0	0	4.281E-05	0.001	0.04	95%	75	125	0%	
Sodium	A	mg/L	144.3	144.3		5	142	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.4925	0.4925		0.1	0.3781	0	0.0002433	0.001	1	114%	75	125	0%	
Thallium	A	mg/L	0.09628	0.09628		0.1	0	0	0.0001114	0.001	1	96%	75	125	0%	
Thorium	A	mg/L	0.09741	0.09741		0.1	0	0	0.0003796	0.00415	1	97%	75	125	0%	
Tin	A	mg/L	0.1017	0.1017		0.1	0	0	0.0018932	0.0011175	0.1	102%	75	125	0%	
Titanium	A	mg/L	0.1021	0.1021		0.1	0.009315	0	0.0005733	0.001	1	93%	75	125	0%	
Uranium	A	mg/L	0.1036	0.1036		0.1	0.0002876	0	1.699E-05	0.0003	1	103%	75	125	0%	
Vanadium	A	mg/L	0.1125	0.1125		0.1	0.01768	0	0.0039127	0.0021085	1	95%	75	125	0%	
Zinc	A	mg/L	0.1095	0.1095		0.1	0.01264	0	0.0011617	0.0065544	1	97%	75	125	0%	
Silica	C	mg/L	42.548688	42.548688		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	42.548688	42.548688		2.14	0	0	0.0902933	0.0113831	5	1988%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980227	B22010751-001	ICPMS-6020-W-	MSD4		1/14/2022 11:20:	1	162926	1/14/2022 8:	1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.6634	0.6634		0.5	0.1328	0.6596	0.0038747	0.0031975	1	106%	75	125	1%	
Antimony	A	mg/L	0.1073	0.1073		0.1	0.000327	0.1043	0.0002799	0.001	0.1	107%	75	125	3%	
Arsenic	A	mg/L	0.0998	0.0998		0.1	0.001985	0.09882	0.0003412	0.001	1	98%	75	125	1%	
Barium	A	mg/L	0.1812	0.1812		0.1	0.07638	0.1755	0.0002682	0.001	1	105%	75	125	3%	
Beryllium	A	mg/L	0.04559	0.04559		0.05	0	0.0463	0.0001071	0.01	1	91%	75	125	2%	
Boron	A	mg/L	0.2975	0.2975		0.1	0.2231	0.3026	0.0203802	0.01467	1	74%	75	125	2%	S
Cadmium	A	mg/L	0.04827	0.04827		0.05	8.211E-05	0.04788	1.821E-05	0.005	1	96%	75	125	1%	
Calcium	A	mg/L	54.11	54.11		5	49.08	54.71	0.0372936	0.1103481	50		75	125	1%	A
Cerium	A	mg/L	0.4913	0.4913		0.1	0.000973	0.4833	2.738E-05	0.001	0.1	490%	75	125	2%	S
Chromium	A	mg/L	0.09693	0.09693		0.1	0	0.09613	0.0015375	0.0015375	1	97%	75	125	1%	
Cobalt	A	mg/L	0.09514	0.09514		0.1	0.001098	0.09288	9.541E-05	0.001	1	94%	75	125	2%	
Copper	A	mg/L	0.09794	0.09794		0.1	0.004621	0.09798	0.0008747	0.00198	1	93%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980227	B22010751-001	ICPMS-6020-W-	MSD4		1/14/2022 11:20:	1	162926	1/14/2022 8:	1E+07	1E+07	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	A	mg/L	0.7819	0.7819		0.5	0.2964	0.7786	0.007424	0.00513	5	97%	75	125	0%	
Lanthanum	A	mg/L	2699	2699		0.1	1.785	2676	0.000055	0.001	0.1		75	125	1%	A
Lead	A	mg/L	0.1018	0.1018		0.1	0.001481	0.1001	7.716E-05	0.001	1	100%	88	115	2%	
Magnesium	A	mg/L	49.73	49.73		5	45.32	50.19	0.0104254	0.0081522	50		75	125	1%	A
Manganese	A	mg/L	0.6509	0.6509		0.5	0.137	0.6381	0.0005399	0.001	1	103%	75	125	2%	
Molybdenum	A	mg/L	0.1051	0.1051		0.1	0.001805	0.1025	0.0001763	0.001	0.1	103%	75	125	3%	
Nickel	A	mg/L	0.1014	0.1014		0.1	0.007038	0.1045	0.0002288	0.0024200	1	94%	75	125	3%	
Potassium	A	mg/L	9.478	9.478		5	4.206	9.446	0.0765619	0.0261205	50	105%	75	125	0%	
Selenium	A	mg/L	0.1026	0.1026		0.1	0.00541	0.1034	0.0001357	0.001	1	97%	75	125	1%	
Silicon	A	mg/L	19.98	19.98		1	18.99	19.89	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.009699	0.009699		0.01	0	0.009471	4.281E-05	0.001	0.04	97%	75	125	2%	
Sodium	A	mg/L	145.1	145.1		5	142	144.3	0.1019461	0.7330269	50		75	125	1%	A
Strontium	A	mg/L	0.5024	0.5024		0.1	0.3781	0.4925	0.0002433	0.001	1	124%	75	125	2%	
Thallium	A	mg/L	0.09435	0.09435		0.1	0	0.09628	0.0001114	0.001	1	94%	75	125	2%	
Thorium	A	mg/L	0.09482	0.09482		0.1	0	0.09741	0.0003796	0.00415	1	95%	75	125	3%	
Tin	A	mg/L	0.1034	0.1034		0.1	0	0.1017	0.0018932	0.0011175	0.1	103%	75	125	2%	
Titanium	A	mg/L	0.1028	0.1028		0.1	0.009315	0.1021	0.0005733	0.001	1	93%	75	125	1%	
Uranium	A	mg/L	0.1053	0.1053		0.1	0.0002876	0.1036	1.699E-05	0.0003	1	105%	75	125	2%	
Vanadium	A	mg/L	0.1134	0.1134		0.1	0.01768	0.1125	0.0039127	0.0021085	1	96%	75	125	1%	
Zinc	A	mg/L	0.1105	0.1105		0.1	0.01264	0.1095	0.0011617	0.0065544	1	98%	75	125	1%	
Silica	C	mg/L	42.741216	42.741216		0	0	42.548688	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	42.741216	42.741216		2.14	0	42.548688	0.0902933	0.0113831	5	1997%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980228	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 11:26:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.005184	0.005184		0	0	0	0.00086	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001462	0		0	0	0	0.00042	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0002103	0.0002103		0	0	0	0.00019	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.00002114	0		0	0	0	0.000042	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.00002111	0		0	0	0	0.00012	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000006783	0		0	0	0	0.000025	0.001	1	0%	0	0	0%	
Chromium	A	mg/L	-0.0006525	0		0	0	0	0.00018	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.883E-06	0		0	0	0	0.000042	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
14980228	Rinse	ICPMS-6020-W-	SAMP		1/14/2022 11:26:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0.00001154	0		0	0	0	0.000056	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00002309	0		0	0	0	0.000095	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001579	0		0	0	0	0.00005	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.000141	0		0	0	0	0.00063	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.000003525	0		0	0	0	0.00033	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-1.944E-06	0		0	0	0	0.00002	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-0.00000667	0		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002375	0.0002375		0	0	0	0.000041	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00001165	0		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00004708	0		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00000507	0		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	0.003385	0		0	0	0	0.02092	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-0.0006235	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-0.0006235	0		0	0	0	0.00119	0.00119	5	0%	0	0	0%	
Sodium	B	mg/L	-0.006109	0		0	0	0	0.02171	0.02171	50	0%	0	0	0%	L
Tin	B	mg/L	0.001765	0.001765		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Zinc	B	mg/L	0.0002189	0		0	0	0	0.00273	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980229	B22010753-001	ICPMS-6020-W-	SAMP		1/14/2022 11:33:	1	R373222		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
14980230	B22010753-001	ICPMS-6020-W-	SAMP		1/14/2022 11:39:	1	162926	1/14/2022 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
14980231	B22010754-001	ICPMS-6020-W-	SAMP		1/14/2022 11:45:	1	R373222		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
14980232	B22010754-001	ICPMS-6020-W-	SAMP		1/14/2022 11:51:	1	162926	1/14/2022 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
14980233	CCV	ICPMS-6020-W-	CCV		1/14/2022 11:58:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05293	0.05293		0.05	0	0	0.00086	0.001	1	106%	90	110	0%	
Antimony	A	mg/L	0.05176	0.05176		0.05	0	0	0.00042	0.001	0.1	104%	90	110	0%	
Arsenic	A	mg/L	0.05114	0.05114		0.05	0	0	0.00019	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05121	0.05121		0.05	0	0	0.000042	0.001	1	102%	90	110	0%	
Beryllium	A	mg/L	0.04736	0.04736		0.05	0	0	0.00012	0.001	1	95%	90	110	0%	
Boron	A	mg/L	0.04525	0.04525		0.05	0	0	0.00561	0.00561	1	90%	90	110	0%	
Cadmium	A	mg/L	0.05075	0.05075		0.05	0	0	0.000025	0.001	1	101%	90	110	0%	
Calcium	A	mg/L	13.48	13.48		12.5	0	0	0.02092	0.02092	50	108%	90	110	0%	
Cerium	A	mg/L	0.2348	0.2348		0.05	0	0	0.000012	0.001	0.1	470%	90	110	0%	S
Chromium	A	mg/L	0.04935	0.04935		0.05	0	0	0.00018	0.001	1	99%	90	110	0%	
Cobalt	A	mg/L	0.05049	0.05049		0.05	0	0	0.000042	0.001	1	101%	90	110	0%	
Copper	A	mg/L	0.04967	0.04967		0.05	0	0	0.00027	0.001	1	99%	90	110	0%	
Iron	A	mg/L	1.315	1.315		1.3	0	0	0.00119	0.00119	5	101%	90	110	0%	
Lanthanum	A	mg/L	0.06722	0.06722		0.05	0	0	0.000011	0.001	0.1	134%	90	110	0%	S
Lead	A	mg/L	0.04983	0.04983		0.05	0	0	0.000056	0.001	1	100%	90	110	0%	
Magnesium	A	mg/L	12.45	12.45		12.5	0	0	0.00564	0.00564	50	100%	90	110	0%	
Manganese	A	mg/L	0.05309	0.05309		0.05	0	0	0.000095	0.001	1	106%	90	110	0%	
Mercury	A	mg/L	0.004622	0.004622		0.001	0	0	0.00016	0.001	0.002	462%	90	110	0%	S
Molybdenum	A	mg/L	0.05105	0.05105		0.05	0	0	0.00005	0.001	0.1	102%	90	110	0%	
Nickel	A	mg/L	0.04876	0.04876		0.05	0	0	0.00063	0.001	1	98%	90	110	0%	
Potassium	A	mg/L	13.42	13.42		12.5	0	0	0.08139	0.08139	50	107%	90	110	0%	
Selenium	A	mg/L	0.05087	0.05087		0.05	0	0	0.00033	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.2598	0.2598		0.2	0	0	0.01223	0.1	0.4	130%	90	110	0%	S
Silver	A	mg/L	0.02001	0.02001		0.02	0	0	0.00002	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	12.28	12.28		12.5	0	0	0.02171	0.02171	50	98%	90	110	0%	
Strontium	A	mg/L	0.05431	0.05431		0.05	0	0	0.00014	0.001	1	109%	90	110	0%	
Thallium	A	mg/L	0.04906	0.04906		0.05	0	0	0.000041	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.04913	0.04913		0.05	0	0	0.00061	0.001	1	98%	90	110	0%	
Tin	A	mg/L	0.05064	0.05064		0.05	0	0	0.00132	0.00132	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.05172	0.05172		0.05	0	0	0.000094	0.001	1	103%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980233	CCV	ICPMS-6020-W-	CCV		1/14/2022 11:58:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Uranium	A	mg/L	0.05154	0.05154		0.05	0	0	0.000052	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.05238	0.05238		0.05	0	0	0.0013	0.0013	1	105%	90	110	0%	
Zinc	A	mg/L	0.05232	0.05232		0.05	0	0	0.00273	0.00273	1	105%	90	110	0%	
Iron, Ferrous	C	mg/L	1.315	1.315		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
14980234	CCB	ICPMS-6020-W-	CCB		1/15/2022 12:04:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0004462	0.0004462		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00007808	0.00007808		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0002756	0.0002756		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	-2.455E-06	-2.455E-06		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.0000973	0.0000973		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001123	0.001123		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.000007263	0.000007263		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.003059	0.003059		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	-5.421E-07	-5.421E-07		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.000618	-0.000618		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-2.576E-06	-2.576E-06		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00002358	0.00002358		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	0.005871	0.005871		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	0.0153	0.0153		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000005869	0.000005869		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.001925	0.001925		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	-0.0000147	-0.0000147		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.000007711	0.000007711		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00001399	0.00001399		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.0001288	-0.0001288		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.05763	0.05763		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00001109	0.00001109		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.0148	0.0148		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000002776	0.000002776		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.01237	-0.01237		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	-0.00001418	-0.00001418		0	0	0	0.00014	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
14980234	CCB	ICPMS-6020-W-	CCB		1/15/2022 12:04:	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thallium	A	mg/L	0.0001737	0.0001737		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001553	0.00001553		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00002716	0.00002716		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00007248	0.00007248		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000003911	0.000003911		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.002295	0.002295		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.00003184	0.00003184		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.005871	0.005871		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
14980235	B22010755-001	ICPMS-6020-W-	SAMP		1/15/2022 12:10:	1	R373222		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
14980236	B22010755-001	ICPMS-6020-W-	SAMP		1/15/2022 12:16:	1	162926	1/14/2022 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
14980237	B22010756-001	ICPMS-6020-W-	SAMP		1/15/2022 12:23:	1	R373222		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
14980238	B22010756-001	ICPMS-6020-W-	SAMP		1/15/2022 12:29:	1	162926	1/14/2022 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
14980239	B22010757-001	ICPMS-6020-W-	SAMP		1/15/2022 12:35:	1	R373222		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
14980240	B22010757-001	ICPMS-6020-W-	SAMP		1/15/2022 12:41:	1	162926	1/14/2022 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
14980241	B22010758-001	ICPMS-6020-W-	SAMP		1/15/2022 12:48:	1	R373222		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
14980242	B22010758-001	ICPMS-6020-W-	SAMP		1/15/2022 12:54:	1	162926	1/14/2022 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
14980243	B22010759-001	ICPMS-6020-W-	SAMP		1/15/2022 1:00:2	1	R373222		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
14980244	B22010759-001	ICPMS-6020-W-	SAMP		1/15/2022 1:06:4	1	162926	1/14/2022 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
14980245	CCV	ICPMS-6020-W-	CCV		1/15/2022 1:12:5	1	R373222		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	0.05112	0.05112		0.05	0	0	0.00042	0.001	0.1	102%	90	110	0%	
Arsenic	A	mg/L	0.05016	0.05016		0.05	0	0	0.00019	0.001	1	100%	90	110	0%	
Barium	A	mg/L	0.05159	0.05159		0.05	0	0	0.000042	0.001	1	103%	90	110	0%	
Beryllium	A	mg/L	0.04818	0.04818		0.05	0	0	0.00012	0.001	1	96%	90	110	0%	
Boron	A	mg/L	0.04997	0.04997		0.05	0	0	0.00561	0.00561	1	100%	90	110	0%	
Cadmium	A	mg/L	0.05063	0.05063		0.05	0	0	0.000025	0.001	1	101%	90	110	0%	
Calcium	A	mg/L	12.92	12.92		12.5	0	0	0.02092	0.02092	50	103%	90	110	0%	
Cerium	A	mg/L	0.2345	0.2345		0.05	0	0	0.000012	0.001	0.1	469%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980245	CCV	ICPMS-6020-W-	CCV		1/15/2022 1:12:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.04942	0.04942		0.05	0	0	0.00018	0.001	1	99%	90	110	0%	
Cobalt	A	mg/L	0.05017	0.05017		0.05	0	0	0.000042	0.001	1	100%	90	110	0%	
Copper	A	mg/L	0.05044	0.05044		0.05	0	0	0.00027	0.001	1	101%	90	110	0%	
Iron	A	mg/L	1.326	1.326		1.3	0	0	0.00119	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.03476	0.03476		0.05	0	0	0.000011	0.001	0.1	70%	90	110	0%	S
Lead	A	mg/L	0.04937	0.04937		0.05	0	0	0.000056	0.001	1	99%	90	110	0%	
Magnesium	A	mg/L	12.43	12.43		12.5	0	0	0.00564	0.00564	50	99%	90	110	0%	
Manganese	A	mg/L	0.05187	0.05187		0.05	0	0	0.000095	0.001	1	104%	90	110	0%	
Mercury	A	mg/L	0.004712	0.004712		0.001	0	0	0.00016	0.001	0.002	471%	90	110	0%	S
Molybdenum	A	mg/L	0.05164	0.05164		0.05	0	0	0.00005	0.001	0.1	103%	90	110	0%	
Nickel	A	mg/L	0.04969	0.04969		0.05	0	0	0.00063	0.001	1	99%	90	110	0%	
Potassium	A	mg/L	13.14	13.14		12.5	0	0	0.08139	0.08139	50	105%	90	110	0%	
Selenium	A	mg/L	0.05054	0.05054		0.05	0	0	0.00033	0.001	1	101%	90	110	0%	
Silicon	A	mg/L	0.3992	0.3992		0.2	0	0	0.01223	0.1	0.4	200%	90	110	0%	S
Silver	A	mg/L	0.02014	0.02014		0.02	0	0	0.00002	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.23	12.23		12.5	0	0	0.02171	0.02171	50	98%	90	110	0%	
Strontium	A	mg/L	0.05203	0.05203		0.05	0	0	0.00014	0.001	1	104%	90	110	0%	
Thallium	A	mg/L	0.04839	0.04839		0.05	0	0	0.000041	0.001	1	97%	90	110	0%	
Thorium	A	mg/L	0.04868	0.04868		0.05	0	0	0.00061	0.001	1	97%	90	110	0%	
Tin	A	mg/L	0.05067	0.05067		0.05	0	0	0.00132	0.00132	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.0513	0.0513		0.05	0	0	0.000094	0.001	1	103%	90	110	0%	
Uranium	A	mg/L	0.04995	0.04995		0.05	0	0	0.000052	0.0003	1	100%	90	110	0%	
Vanadium	A	mg/L	0.05553	0.05553		0.05	0	0	0.0013	0.0013	1	111%	90	110	0%	S
Zinc	A	mg/L	0.05089	0.05089		0.05	0	0	0.00273	0.00273	1	102%	90	110	0%	
Iron, Ferrous	C	mg/L	1.326	1.326		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
14980246	CCB	ICPMS-6020-W-	CCB		1/15/2022 1:19:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000005013	0.000005013		0	0	0	0.00086	0.001	1	0%			0%	
Antimony	A	mg/L	0.00008999	0.00008999		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0002595	0.0002595		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	0.000001328	0.000001328		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	-2.639E-06	-2.639E-06		0	0	0	0.00012	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
14980246	CCB	ICPMS-6020-W-	CCB		1/15/2022 1:19:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.002391	0.002391		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	-5.174E-06	-5.174E-06		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	0.001956	0.001956		0	0	0	0.02092	0.02092	50	0%			0%	
Cerium	A	mg/L	-7.53E-08	-7.53E-08		0	0	0	0.000012	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0004128	-0.0004128		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	-2.895E-07	-2.895E-07		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.00000871	0.00000871		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	-0.0003599	-0.0003599		0	0	0	0.00119	0.00119	5	0%			0%	
Lanthanum	A	mg/L	0.02452	0.02452		0	0	0	0.000011	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000003505	0.000003505		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	0.001076	0.001076		0	0	0	0.00564	0.00564	50	0%			0%	
Manganese	A	mg/L	0.000001031	0.000001031		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	-6.313E-06	-6.313E-06		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00001945	0.00001945		0	0	0	0.00005	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.00009511	-0.00009511		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	0.03718	0.03718		0	0	0	0.08139	0.08139	50	0%			0%	
Selenium	A	mg/L	-8.209E-07	-8.209E-07		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	0.07179	0.07179		0	0	0	0.01223	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.228E-06	-1.228E-06		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.000867	-0.000867		0	0	0	0.02171	0.02171	50	0%			0%	
Strontium	A	mg/L	-0.00001041	-0.00001041		0	0	0	0.00014	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001008	0.0001008		0	0	0	0.000041	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001171	0.00001171		0	0	0	0.00061	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00003119	0.00003119		0	0	0	0.00132	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00009271	0.00009271		0	0	0	0.000094	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000004316	0.000004316		0	0	0	0.000052	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.004457	0.004457		0	0	0	0.0013	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-0.00002102	-0.00002102		0	0	0	0.00273	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.0003599	-0.0003599		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
14980247	Rinse	ICPMS-6020-W-	SAMP		1/15/2022 1:25:2	1	R373222		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
14980247	Rinse	ICPMS-6020-W-	SAMP		1/15/2022 1:25:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.005033	0.005033		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.000006847	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0002673	0.0002673		0	0	0	0.0001626	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.00002788	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-5.777E-06	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-4.692E-06	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	0.004078	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	-0.0004238	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-4.401E-06	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	-0.0003171	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.00000355	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Magnesium	A	mg/L	0.003082	0		0	0	0	0.0084694	0.0084694	50	0%	0	0	0%	L
Manganese	A	mg/L	0.00001615	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	-3.201E-06	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.0001007	0		0	0	0	0.0001477	0.001	1	0%	0	0	0%	
Potassium	A	mg/L	0.04138	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	0.000002141	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	1.138E-07	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Sodium	A	mg/L	-0.0118	0		0	0	0	0.0321039	0.0321039	50	0%	0	0	0%	L
Strontium	A	mg/L	-1.735E-06	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-0.00004045	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.000002099	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00175	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0.00003953	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000001263	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.000002096	0		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Lithium	B	mg/L	-0.0001609	0		0	0	0	0.05	0.05	1	0%	0	0	0%	L
Iron, Ferrous	C	mg/L	-0.0003171	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980248	CCV	ICPMS-6020-W-	CCV		1/15/2022 1:31:3	1	R373222		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				
14980248	CCV	ICPMS-6020-W-	CCV		1/15/2022 1:31:3	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05116	0.05116		0.05	0	0	0.0006966	0.001	1	102%	90	110	0%	
Antimony	A	mg/L	0.05148	0.05148		0.05	0	0	0.0002882	0.001	0.1	103%	90	110	0%	
Arsenic	A	mg/L	0.05004	0.05004		0.05	0	0	0.0001626	0.001	1	100%	90	110	0%	
Barium	A	mg/L	0.0521	0.0521		0.05	0	0	8.917E-05	0.001	1	104%	90	110	0%	
Beryllium	A	mg/L	0.04825	0.04825		0.05	0	0	0.0001137	0.001	1	96%	90	110	0%	
Boron	A	mg/L	0.04838	0.04838		0.05	0	0	0.0036397	0.0036397	1	97%	90	110	0%	
Cadmium	A	mg/L	0.0513	0.0513		0.05	0	0	2.969E-05	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	13	13		12.5	0	0	0.0254163	0.0254163	50	104%	90	110	0%	
Cerium	A	mg/L	0.2411	0.2411		0.05	0	0	8.97E-06	0.001	0.1	482%	90	110	0%	S
Chromium	A	mg/L	0.04915	0.04915		0.05	0	0	0.0002078	0.001	1	98%	90	110	0%	
Cobalt	A	mg/L	0.05063	0.05063		0.05	0	0	2.037E-05	0.001	1	101%	90	110	0%	
Copper	A	mg/L	0.05088	0.05088		0.05	0	0	0.0001010	0.001	1	102%	90	110	0%	
Iron	A	mg/L	1.309	1.309		1.3	0	0	0.0021231	0.0021231	5	101%	90	110	0%	
Lanthanum	A	mg/L	0.06939	0.06939		0.05	0	0	1.209E-05	0.001	0.1	139%	90	110	0%	S
Lead	A	mg/L	0.0503	0.0503		0.05	0	0	3.957E-05	0.001	1	101%	90	110	0%	
Lithium	A	mg/L	0.6003	0.6003		0.625	0	0	0.05	0.05	1	96%	90	110	0%	
Magnesium	A	mg/L	12.74	12.74		12.5	0	0	0.0084694	0.0084694	50	102%	90	110	0%	
Manganese	A	mg/L	0.05148	0.05148		0.05	0	0	5.319E-05	0.001	1	103%	90	110	0%	
Mercury	A	mg/L	0.004758	0.004758		0.001	0	0	7.78E-06	0.001	0.002	476%	90	110	0%	S
Molybdenum	A	mg/L	0.05161	0.05161		0.05	0	0	0.0000598	0.001	0.1	103%	90	110	0%	
Nickel	A	mg/L	0.05028	0.05028		0.05	0	0	0.0001477	0.001	1	101%	90	110	0%	
Potassium	A	mg/L	12.76	12.76		12.5	0	0	0.0951865	0.0951865	50	102%	90	110	0%	
Selenium	A	mg/L	0.05048	0.05048		0.05	0	0	6.961E-05	0.001	1	101%	90	110	0%	
Silicon	A	mg/L	0.2551	0.2551		0.2	0	0	0.0786454	0.1	0.4	128%	90	110	0%	S
Silver	A	mg/L	0.02025	0.02025		0.02	0	0	1.541E-05	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.66	12.66		12.5	0	0	0.0321039	0.0321039	50	101%	90	110	0%	
Strontium	A	mg/L	0.05181	0.05181		0.05	0	0	9.136E-05	0.001	1	104%	90	110	0%	
Thallium	A	mg/L	0.0494	0.0494		0.05	0	0	0.0001262	0.001	1	99%	90	110	0%	
Thorium	A	mg/L	0.04889	0.04889		0.05	0	0	7.051E-05	0.001	1	98%	90	110	0%	
Tin	A	mg/L	0.05059	0.05059		0.05	0	0	0.0021596	0.0021596	0.1	101%	90	110	0%	
Titanium	A	mg/L	0.05133	0.05133		0.05	0	0	0.0001844	0.001	1	103%	90	110	0%	
Uranium	A	mg/L	0.05097	0.05097		0.05	0	0	1.948E-05	0.0003	1	102%	90	110	0%	
Vanadium	A	mg/L	0.05477	0.05477		0.05	0	0	0.004194	0.004194	1	110%	90	110	0%	
Zinc	A	mg/L	0.05175	0.05175		0.05	0	0	0.0006119	0.001	1	103%	90	110	0%	
Iron, Ferrous	C	mg/L	1.309	1.309		0	0	0	0.0021231	0.0021231	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
14980249	CCB	ICPMS-6020-W-	CCB		1/15/2022 1:37:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.00001962	-0.00001962		0	0	0	0.0006966	0.001	1	0%			0%	
Antimony	A	mg/L	0.00009667	0.00009667		0	0	0	0.0002882	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.0002845	0.0002845		0	0	0	0.0001626	0.001	1	0%			0%	
Barium	A	mg/L	0.000003862	0.000003862		0	0	0	8.917E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	0.000001064	0.000001064		0	0	0	0.0001137	0.001	1	0%			0%	
Boron	A	mg/L	0.001101	0.001101		0	0	0	0.0036397	0.0036397	1	0%			0%	
Cadmium	A	mg/L	0.000001362	0.000001362		0	0	0	2.969E-05	0.001	1	0%			0%	
Calcium	A	mg/L	0.002069	0.002069		0	0	0	0.0254163	0.0254163	50	0%			0%	
Cerium	A	mg/L	7.647E-07	7.647E-07		0	0	0	8.97E-06	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0003772	-0.0003772		0	0	0	0.0002078	0.001	1	0%			0%	
Cobalt	A	mg/L	-0.00000572	-0.00000572		0	0	0	2.037E-05	0.001	1	0%			0%	
Copper	A	mg/L	0.00001092	0.00001092		0	0	0	0.0001010	0.001	1	0%			0%	
Iron	A	mg/L	-0.000322	-0.000322		0	0	0	0.0021231	0.0021231	5	0%			0%	
Lanthanum	A	mg/L	0.01676	0.01676		0	0	0	1.209E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000007091	0.000007091		0	0	0	3.957E-05	0.001	1	0%			0%	
Lithium	A	mg/L	0.00007607	0.00007607		0	0	0	0.05	0.05	1	0%			0%	
Magnesium	A	mg/L	0.0008084	0.0008084		0	0	0	0.0084694	0.0084694	50	0%			0%	
Manganese	A	mg/L	-0.00000258	-0.00000258		0	0	0	5.319E-05	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001241	0.00001241		0	0	0	7.78E-06	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002109	0.00002109		0	0	0	0.0000598	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.0000945	-0.0000945		0	0	0	0.0001477	0.001	1	0%			0%	
Potassium	A	mg/L	0.04	0.04		0	0	0	0.0951865	0.0951865	50	0%			0%	
Selenium	A	mg/L	0.00001304	0.00001304		0	0	0	6.961E-05	0.001	1	0%			0%	
Silicon	A	mg/L	0.02655	0.02655		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.227E-06	-2.227E-06		0	0	0	1.541E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.01829	-0.01829		0	0	0	0.0321039	0.0321039	50	0%			0%	
Strontium	A	mg/L	-0.00000737	-0.00000737		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001685	0.0001685		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001283	0.00001283		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00002687	0.00002687		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00005002	0.00005002		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0000037	0.0000037		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.004331	0.004331		0	0	0	0.004194	0.004194	1	0%	0	0	0%	
Zinc	A	mg/L	-0.00004873	-0.00004873		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.000322	-0.000322		0	0	0	0.0021231	0.0021231	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
14980250	Cal Blk	ICPMS-6020-W-	SAMP		1/15/2022 1:44:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0	0		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	0	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	0	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Potassium	A	mg/L	0	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	0	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0	0		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980251	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/15/2022 1:50:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002402	0.0002402		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00002943	0.00002943		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.0001384	0.0001384		0.000025	0	0		0.001		554%	80	120	0%	S
Barium	A	mg/L	0.00003258	0.00003258		0.000025	0	0		0.0003		130%	80	120	0%	S
Beryllium	A	mg/L	0.0000306	0.0000306		0.000025	0	0		0.001		122%	80	120	0%	S
Boron	A	mg/L	-0.000191	-0.000191		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
14980251	0.025 ppb STD	ICPMS-6020B-C	Cal1		1/15/2022 1:50:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00003138	0.00003138		0.000025	0	0		0.001		126%	80	120	0%	S
Calcium	A	mg/L	0.0001937	0.0001937		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00002313	0.00002313		0.000025	0	0		0.001		93%	80	120	0%	
Chromium	A	mg/L	0.00003372	0.00003372		0.000025	0	0		0.001		135%	80	120	0%	S
Cobalt	A	mg/L	0.00002906	0.00002906		0.000025	0	0		0.001		116%	80	120	0%	
Copper	A	mg/L	0.00008351	0.00008351		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0009166	0.0009166		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.03657	0.03657		0.000025	0	0		0.001		146280%	80	120	0%	S
Lead	A	mg/L	0.00003672	0.00003672		0.000025	0	0		0.001		147%	80	120	0%	S
Lithium	A	mg/L	0.0004719	0.0004719		0.0003125	0	0		1		151%	80	120	0%	S
Magnesium	A	mg/L	0.007466	0.007466		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00004228	0.00004228		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	-0.00002444	-0.00002444		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00002426	0.00002426		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00005162	0.00005162		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.01214	0.01214		0.00625	0	0		1		194%	80	120	0%	S
Selenium	A	mg/L	0.00002702	0.00002702		0.000025	0	0		0.005		108%	80	120	0%	
Silicon	A	mg/L	0.0001072	0.0001072		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00001838	0.00001838		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.006007	0.006007		0.00625	0	0		1		96%	80	120	0%	
Strontium	A	mg/L	0.00002523	0.00002523		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	-0.00004947	-0.00004947		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00002392	0.00002392		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0001548	0.0001548		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00008804	0.00008804		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00003163	0.00003163		0.000025	0	0		0.001		127%	80	120	0%	S
Vanadium	A	mg/L	0.0009325	0.0009325		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0007662	0.0007662		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0009166	0.0009166		0.000025	0	0		0.01	5	3666%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.000229408	0.000229408		0.0000535	0	0		0.214	0.9	429%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980252	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/15/2022 1:56:5	1	R373222		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				
14980252	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/15/2022 1:56:5	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001353	0.0001353		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00003132	0.00003132		0.00005	0	0		0.001		63%	80	120	0%	S
Arsenic	A	mg/L	0.0001458	0.0001458		0.00005	0	0		0.001		292%	80	120	0%	S
Barium	A	mg/L	0.00002997	0.00002997		0.00005	0	0		0.0003		60%	80	120	0%	S
Beryllium	A	mg/L	0.00005796	0.00005796		0.00005	0	0		0.001		116%	80	120	0%	
Boron	A	mg/L	-0.0004671	-0.0004671		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.0000405	0.0000405		0.00005	0	0		0.001		81%	80	120	0%	
Calcium	A	mg/L	-0.002484	-0.002484		0.0125	0	0		1		-20%	80	120	0%	S
Cerium	A	mg/L	9.295E-08	9.295E-08		0.00005	0	0		0.001		0%	80	120	0%	S
Chromium	A	mg/L	0.00007842	0.00007842		0.00005	0	0		0.001		157%	80	120	0%	S
Cobalt	A	mg/L	0.00005902	0.00005902		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00007998	0.00007998		0.00005	0	0		0.005		160%	80	120	0%	S
Iron	A	mg/L	0.001487	0.001487		0.00125	0	0		0.01		119%	80	120	0%	
Lanthanum	A	mg/L	0.01664	0.01664		0.00005	0	0		0.001		33280%	80	120	0%	S
Lead	A	mg/L	0.00005189	0.00005189		0.00005	0	0		0.001		104%	80	120	0%	
Lithium	A	mg/L	0.0007146	0.0007146		0.000625	0	0		1		114%	80	120	0%	
Magnesium	A	mg/L	0.01622	0.01622		0.0125	0	0		1		130%	80	120	0%	S
Manganese	A	mg/L	0.00006247	0.00006247		0.00005	0	0		0.001		125%	80	120	0%	S
Mercury	A	mg/L	-0.0000248	-0.0000248		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00004486	0.00004486		0.00005	0	0		0.001		90%	80	120	0%	
Nickel	A	mg/L	0.00008362	0.00008362		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.01526	0.01526		0.0125	0	0		1		122%	80	120	0%	S
Selenium	A	mg/L	0.0000559	0.0000559		0.00005	0	0		0.005		112%	80	120	0%	
Silicon	A	mg/L	-0.005185	-0.005185		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002761	0.00002761		0.00002	0	0		0.001		138%	80	120	0%	S
Sodium	A	mg/L	0.008114	0.008114		0.0125	0	0		1		65%	80	120	0%	S
Strontium	A	mg/L	0.00006221	0.00006221		0.00005	0	0		0.001		124%	80	120	0%	S
Thallium	A	mg/L	-0.00003872	-0.00003872		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.0000349	0.0000349		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.0002633	0.0002633		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.0000923	0.0000923		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00005098	0.00005098		0.00005	0	0		0.001		102%	80	120	0%	
Vanadium	A	mg/L	0.0005027	0.0005027		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.00008095	0.00008095		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001487	0.001487		0.00005	0	0		0.01	5	2974%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980252	0.05 ppb STD	ICPMS-6020B-C	Cal2		1/15/2022 1:56:5	1	R373222		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	-0.0110959	-0.0110959		0.00428	0	0		0.214	0.9	-259%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980253	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/15/2022 2:03:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002064	0.0002064		0.0001	0	0		0.01		206%	80	120	0%	S
Antimony	A	mg/L	0.00008641	0.00008641		0.0001	0	0		0.001		86%	80	120	0%	
Arsenic	A	mg/L	0.0001679	0.0001679		0.0001	0	0		0.001		168%	80	120	0%	S
Barium	A	mg/L	0.0001182	0.0001182		0.0001	0	0		0.0003		118%	80	120	0%	
Beryllium	A	mg/L	0.0001146	0.0001146		0.0001	0	0		0.001		115%	80	120	0%	
Boron	A	mg/L	-0.0006476	-0.0006476		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.0001175	0.0001175		0.0001	0	0		0.001		118%	80	120	0%	
Calcium	A	mg/L	0.01116	0.01116		0.025	0	0		1		45%	80	120	0%	S
Cerium	A	mg/L	0.000003031	0.000003031		0.0001	0	0		0.001		3%	80	120	0%	S
Chromium	A	mg/L	0.0001275	0.0001275		0.0001	0	0		0.001		128%	80	120	0%	S
Cobalt	A	mg/L	0.0001153	0.0001153		0.0001	0	0		0.001		115%	80	120	0%	
Copper	A	mg/L	0.0001458	0.0001458		0.0001	0	0		0.005		146%	80	120	0%	S
Iron	A	mg/L	0.003009	0.003009		0.0025	0	0		0.01		120%	80	120	0%	
Lanthanum	A	mg/L	0.7485	0.7485		0.0001	0	0		0.001		748500%	80	120	0%	S
Lead	A	mg/L	0.0001021	0.0001021		0.0001	0	0		0.001		102%	80	120	0%	
Lithium	A	mg/L	0.00146	0.00146		0.00125	0	0		1		117%	80	120	0%	
Magnesium	A	mg/L	0.03235	0.03235		0.025	0	0		1		129%	80	120	0%	S
Manganese	A	mg/L	0.000137	0.000137		0.0001	0	0		0.001		137%	80	120	0%	S
Mercury	A	mg/L	-0.00002987	-0.00002987		0.000002	0	0		0.001		-1494%	80	120	0%	S
Molybdenum	A	mg/L	0.0001072	0.0001072		0.0001	0	0		0.001		107%	80	120	0%	
Nickel	A	mg/L	0.000109	0.000109		0.0001	0	0		0.005		109%	80	120	0%	
Potassium	A	mg/L	0.02718	0.02718		0.025	0	0		1		109%	80	120	0%	
Selenium	A	mg/L	0.0001218	0.0001218		0.0001	0	0		0.005		122%	80	120	0%	S
Silicon	A	mg/L	-0.006131	-0.006131		0.0004	0	0		0.1		-1533%	80	120	0%	S
Silver	A	mg/L	0.00004734	0.00004734		0.00004	0	0		0.001		118%	80	120	0%	
Sodium	A	mg/L	0.02152	0.02152		0.025	0	0		1		86%	80	120	0%	
Strontium	A	mg/L	0.0001139	0.0001139		0.0001	0	0		0.001		114%	80	120	0%	
Thallium	A	mg/L	-3.985E-06	-3.985E-06		0.0001	0	0		0.001		-4%	80	120	0%	S
Thorium	A	mg/L	0.0000769	0.0000769		0.0001	0	0		0.05		77%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980253	0.10 ppb STD	ICPMS-6020B-C	Cal3		1/15/2022 2:03:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.0003731	0.0003731		0.0001	0	0		0.001		373%	80	120	0%	S
Titanium	A	mg/L	0.0001571	0.0001571		0.0001	0	0		0.001		157%	80	120	0%	S
Uranium	A	mg/L	0.0001028	0.0001028		0.0001	0	0		0.001		103%	80	120	0%	
Vanadium	A	mg/L	0.0001666	0.0001666		0.0001	0	0		0.005		167%	80	120	0%	S
Zinc	A	mg/L	0.00008588	0.00008588		0.0001	0	0		0.01		86%	80	120	0%	
Iron, Ferrous	C	mg/L	0.003009	0.003009		0.0001	0	0		0.01	5	3009%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.01312034	-0.01312034		0.00856	0	0		0.214	0.9	-153%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980254	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/15/2022 2:09:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0006831	0.0006831		0.0005	0	0		0.01		137%	80	120	0%	S
Antimony	A	mg/L	0.0004828	0.0004828		0.0005	0	0		0.001		97%	80	120	0%	
Arsenic	A	mg/L	0.0005656	0.0005656		0.0005	0	0		0.001		113%	80	120	0%	
Barium	A	mg/L	0.000475	0.000475		0.0005	0	0		0.0003		95%	80	120	0%	
Beryllium	A	mg/L	0.0005498	0.0005498		0.0005	0	0		0.001		110%	80	120	0%	
Boron	A	mg/L	-0.0003812	-0.0003812		0.0005	0	0		0.1		-76%	80	120	0%	S
Cadmium	A	mg/L	0.0005068	0.0005068		0.0005	0	0		0.001		101%	80	120	0%	
Calcium	A	mg/L	0.122	0.122		0.125	0	0		1		98%	80	120	0%	
Cerium	A	mg/L	0.000007922	0.000007922		0.0005	0	0		0.001		2%	80	120	0%	S
Chromium	A	mg/L	0.0005744	0.0005744		0.0005	0	0		0.001		115%	80	120	0%	
Cobalt	A	mg/L	0.0005566	0.0005566		0.0005	0	0		0.001		111%	80	120	0%	
Copper	A	mg/L	0.0006444	0.0006444		0.0005	0	0		0.005		129%	80	120	0%	S
Iron	A	mg/L	0.0146	0.0146		0.0125	0	0		0.01		117%	80	120	0%	
Lanthanum	A	mg/L	0.03887	0.03887		0.0005	0	0		0.001		7774%	80	120	0%	S
Lead	A	mg/L	0.0005095	0.0005095		0.0005	0	0		0.001		102%	80	120	0%	
Lithium	A	mg/L	0.00725	0.00725		0.00625	0	0		1		116%	80	120	0%	
Magnesium	A	mg/L	0.1437	0.1437		0.125	0	0		1		115%	80	120	0%	
Manganese	A	mg/L	0.0005581	0.0005581		0.0005	0	0		0.001		112%	80	120	0%	
Mercury	A	mg/L	-0.0000175	-0.0000175		0.00001	0	0		0.001		-175%	80	120	0%	S
Molybdenum	A	mg/L	0.0005042	0.0005042		0.0005	0	0		0.001		101%	80	120	0%	
Nickel	A	mg/L	0.000619	0.000619		0.0005	0	0		0.005		124%	80	120	0%	S
Potassium	A	mg/L	0.1251	0.1251		0.125	0	0		1		100%	80	120	0%	
Selenium	A	mg/L	0.0005736	0.0005736		0.0005	0	0		0.005		115%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980254	0.5 ppb STD	ICPMS-6020B-C	Cal4		1/15/2022 2:09:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	-0.006085	-0.006085		0.002	0	0		0.1		-304%	80	120	0%	S
Silver	A	mg/L	0.0002171	0.0002171		0.0002	0	0		0.001		109%	80	120	0%	
Sodium	A	mg/L	0.1323	0.1323		0.125	0	0		1		106%	80	120	0%	
Strontium	A	mg/L	0.0005478	0.0005478		0.0005	0	0		0.001		110%	80	120	0%	
Thallium	A	mg/L	0.0004075	0.0004075		0.0005	0	0		0.001		81%	80	120	0%	
Thorium	A	mg/L	0.0004565	0.0004565		0.0005	0	0		0.05		91%	80	120	0%	
Tin	A	mg/L	0.0007177	0.0007177		0.0005	0	0		0.001		144%	80	120	0%	S
Titanium	A	mg/L	0.000596	0.000596		0.0005	0	0		0.001		119%	80	120	0%	
Uranium	A	mg/L	0.0004969	0.0004969		0.0005	0	0		0.001		99%	80	120	0%	
Vanadium	A	mg/L	0.000435	0.000435		0.0005	0	0		0.005		87%	80	120	0%	
Zinc	A	mg/L	0.0008422	0.0008422		0.0005	0	0		0.01		168%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.0146	0.0146		0.0005	0	0		0.01	5	2920%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0130219	-0.0130219		0.0428	0	0		0.214	0.9	-30%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980255	1 ppb STD	ICPMS-6020B-C	Cal5		1/15/2022 2:16:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001219	0.001219		0.001	0	0		0.01		122%	80	120	0%	S
Antimony	A	mg/L	0.001051	0.001051		0.001	0	0		0.001		105%	80	120	0%	
Arsenic	A	mg/L	0.00121	0.00121		0.001	0	0		0.001		121%	80	120	0%	S
Barium	A	mg/L	0.001101	0.001101		0.001	0	0		0.0003		110%	80	120	0%	
Beryllium	A	mg/L	0.001152	0.001152		0.001	0	0		0.001		115%	80	120	0%	
Boron	A	mg/L	0.00006512	0.00006512		0.001	0	0		0.1		7%	80	120	0%	S
Cadmium	A	mg/L	0.001116	0.001116		0.001	0	0		0.001		112%	80	120	0%	
Calcium	A	mg/L	0.2667	0.2667		0.25	0	0		1		107%	80	120	0%	
Cerium	A	mg/L	0.000008723	0.000008723		0.001	0	0		0.001		1%	80	120	0%	S
Chromium	A	mg/L	0.001268	0.001268		0.001	0	0		0.001		127%	80	120	0%	S
Cobalt	A	mg/L	0.001176	0.001176		0.001	0	0		0.001		118%	80	120	0%	
Copper	A	mg/L	0.001339	0.001339		0.001	0	0		0.005		134%	80	120	0%	S
Iron	A	mg/L	0.02922	0.02922		0.025	0	0		0.01		117%	80	120	0%	
Lanthanum	A	mg/L	0.02076	0.02076		0.001	0	0		0.001		2076%	80	120	0%	S
Lead	A	mg/L	0.00109	0.00109		0.001	0	0		0.001		109%	80	120	0%	
Lithium	A	mg/L	0.01503	0.01503		0.0125	0	0		1		120%	80	120	0%	
Magnesium	A	mg/L	0.3043	0.3043		0.25	0	0		1		122%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980255	1 ppb STD	ICPMS-6020B-C	Cal5		1/15/2022 2:16:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.001198	0.001198		0.001	0	0		0.001		120%	80	120	0%	
Mercury	A	mg/L	-0.00002677	-0.00002677		0.00002	0	0		0.001		-134%	80	120	0%	S
Molybdenum	A	mg/L	0.001068	0.001068		0.001	0	0		0.001		107%	80	120	0%	
Nickel	A	mg/L	0.001327	0.001327		0.001	0	0		0.005		133%	80	120	0%	S
Potassium	A	mg/L	0.2988	0.2988		0.25	0	0		1		120%	80	120	0%	
Selenium	A	mg/L	0.001129	0.001129		0.001	0	0		0.005		113%	80	120	0%	
Silicon	A	mg/L	-0.004424	-0.004424		0.004	0	0		0.1		-111%	80	120	0%	S
Silver	A	mg/L	0.0004619	0.0004619		0.0004	0	0		0.001		115%	80	120	0%	
Sodium	A	mg/L	0.296	0.296		0.25	0	0		1		118%	80	120	0%	
Strontium	A	mg/L	0.001127	0.001127		0.001	0	0		0.001		113%	80	120	0%	
Thallium	A	mg/L	0.0009646	0.0009646		0.001	0	0		0.001		96%	80	120	0%	
Thorium	A	mg/L	0.001006	0.001006		0.001	0	0		0.05		101%	80	120	0%	
Tin	A	mg/L	0.001418	0.001418		0.001	0	0		0.001		142%	80	120	0%	S
Titanium	A	mg/L	0.001108	0.001108		0.001	0	0		0.001		111%	80	120	0%	
Uranium	A	mg/L	0.001037	0.001037		0.001	0	0		0.001		104%	80	120	0%	
Vanadium	A	mg/L	0.001458	0.001458		0.001	0	0		0.005		146%	80	120	0%	S
Zinc	A	mg/L	0.001419	0.001419		0.001	0	0		0.01		142%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.02922	0.02922		0.001	0	0		0.01	5	2922%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.00946736	-0.00946736		0.0856	0	0		0.214	0.9	-11%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980256	10 ppb STD	ICPMS-6020B-C	Cal6		1/15/2022 2:22:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.01137	0.01137		0.01	0	0		0.01		114%	90	110	0%	S
Antimony	A	mg/L	0.01038	0.01038		0.01	0	0		0.001		104%	90	110	0%	
Arsenic	A	mg/L	0.01095	0.01095		0.01	0	0		0.001		109%	90	110	0%	
Barium	A	mg/L	0.01086	0.01086		0.01	0	0		0.0003		109%	90	110	0%	
Beryllium	A	mg/L	0.01142	0.01142		0.01	0	0		0.001		114%	90	110	0%	S
Boron	A	mg/L	0.01057	0.01057		0.01	0	0		0.1		106%	90	110	0%	
Cadmium	A	mg/L	0.01067	0.01067		0.01	0	0		0.001		107%	90	110	0%	
Calcium	A	mg/L	2.67	2.67		2.5	0	0		1		107%	90	110	0%	
Cerium	A	mg/L	0.00001681	0.00001681		0.01	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.01105	0.01105		0.01	0	0		0.001		110%	90	110	0%	
Cobalt	A	mg/L	0.01083	0.01083		0.01	0	0		0.001		108%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980256	10 ppb STD	ICPMS-6020B-C	Cal6		1/15/2022 2:22:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.01203	0.01203		0.01	0	0		0.005		120%	90	110	0%	S
Iron	A	mg/L	0.2833	0.2833		0.25	0	0		0.01		113%	90	110	0%	S
Lanthanum	A	mg/L	0.05546	0.05546		0.01	0	0		0.001		555%	90	110	0%	S
Lead	A	mg/L	0.01031	0.01031		0.01	0	0		0.001		103%	90	110	0%	
Lithium	A	mg/L	0.1473	0.1473		0.125	0	0		1		118%	90	110	0%	S
Magnesium	A	mg/L	2.838	2.838		2.5	0	0		1		114%	90	110	0%	S
Manganese	A	mg/L	0.01101	0.01101		0.01	0	0		0.001		110%	90	110	0%	
Mercury	A	mg/L	-0.00005327	-0.00005327		0.0002	0	0		0.001		-27%	90	110	0%	S
Molybdenum	A	mg/L	0.01062	0.01062		0.01	0	0		0.001		106%	90	110	0%	
Nickel	A	mg/L	0.01204	0.01204		0.01	0	0		0.005		120%	90	110	0%	S
Potassium	A	mg/L	2.697	2.697		2.5	0	0		1		108%	90	110	0%	
Selenium	A	mg/L	0.01091	0.01091		0.01	0	0		0.005		109%	90	110	0%	
Silicon	A	mg/L	0.0319	0.0319		0.04	0	0		0.1		80%	90	110	0%	S
Silver	A	mg/L	0.004329	0.004329		0.004	0	0		0.001		108%	90	110	0%	
Sodium	A	mg/L	2.86	2.86		2.5	0	0		1		114%	90	110	0%	S
Strontium	A	mg/L	0.01054	0.01054		0.01	0	0		0.001		105%	90	110	0%	
Thallium	A	mg/L	0.01054	0.01054		0.01	0	0		0.001		105%	90	110	0%	
Thorium	A	mg/L	0.01003	0.01003		0.01	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.01075	0.01075		0.01	0	0		0.001		107%	90	110	0%	
Titanium	A	mg/L	0.01092	0.01092		0.01	0	0		0.001		109%	90	110	0%	
Uranium	A	mg/L	0.009863	0.009863		0.01	0	0		0.001		99%	90	110	0%	
Vanadium	A	mg/L	0.01056	0.01056		0.01	0	0		0.005		106%	90	110	0%	
Zinc	A	mg/L	0.01261	0.01261		0.01	0	0		0.01		126%	90	110	0%	S
Iron, Ferrous	C	mg/L	0.2833	0.2833		0.01	0	0		0.01	5	2833%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.068266	0.068266		0.856	0	0		0.214	0.9	8%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980257	50 ppb STD	ICPMS-6020B-C	Cal7		1/15/2022 2:28:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0514	0.0514		0.05	0	0		0.01		103%	90	110	0%	
Antimony	A	mg/L	0.05259	0.05259		0.05	0	0		0.001		105%	90	110	0%	
Arsenic	A	mg/L	0.05212	0.05212		0.05	0	0		0.001		104%	90	110	0%	
Barium	A	mg/L	0.04985	0.04985		0.05	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.05318	0.05318		0.05	0	0		0.001		106%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980257	50 ppb STD	ICPMS-6020B-C	Cal7		1/15/2022 2:28:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.05418	0.05418		0.05	0	0		0.1		108%	90	110	0%	
Cadmium	A	mg/L	0.05094	0.05094		0.05	0	0		0.001		102%	90	110	0%	
Calcium	A	mg/L	12.15	12.15		12.5	0	0		1		97%	90	110	0%	
Cerium	A	mg/L	0.252	0.252		0.05	0	0		0.001		504%	90	110	0%	S
Chromium	A	mg/L	0.05312	0.05312		0.05	0	0		0.001		106%	90	110	0%	
Cobalt	A	mg/L	0.05006	0.05006		0.05	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.05543	0.05543		0.05	0	0		0.005		111%	90	110	0%	S
Iron	A	mg/L	1.273	1.273		1.25	0	0		0.01		102%	90	110	0%	
Lanthanum	A	mg/L	0.02756	0.02756		0.05	0	0		0.001		55%	90	110	0%	S
Lead	A	mg/L	0.04951	0.04951		0.05	0	0		0.001		99%	90	110	0%	
Lithium	A	mg/L	0.6587	0.6587		0.625	0	0		1		105%	90	110	0%	
Magnesium	A	mg/L	12.9	12.9		12.5	0	0		1		103%	90	110	0%	
Manganese	A	mg/L	0.05086	0.05086		0.05	0	0		0.001		102%	90	110	0%	
Mercury	A	mg/L	0.005068	0.005068		0.001	0	0		0.001		507%	90	110	0%	S
Molybdenum	A	mg/L	0.05103	0.05103		0.05	0	0		0.001		102%	90	110	0%	
Nickel	A	mg/L	0.05499	0.05499		0.05	0	0		0.005		110%	90	110	0%	
Potassium	A	mg/L	12.29	12.29		12.5	0	0		1		98%	90	110	0%	
Selenium	A	mg/L	0.05181	0.05181		0.05	0	0		0.005		104%	90	110	0%	
Silicon	A	mg/L	0.2004	0.2004		0.2	0	0		0.1		100%	90	110	0%	
Silver	A	mg/L	0.02059	0.02059		0.02	0	0		0.001		103%	90	110	0%	
Sodium	A	mg/L	12.79	12.79		12.5	0	0		1		102%	90	110	0%	
Strontium	A	mg/L	0.04952	0.04952		0.05	0	0		0.001		99%	90	110	0%	
Thallium	A	mg/L	0.04818	0.04818		0.05	0	0		0.001		96%	90	110	0%	
Thorium	A	mg/L	0.04902	0.04902		0.05	0	0		0.05		98%	90	110	0%	
Tin	A	mg/L	0.05139	0.05139		0.05	0	0		0.001		103%	90	110	0%	
Titanium	A	mg/L	0.05266	0.05266		0.05	0	0		0.001		105%	90	110	0%	
Uranium	A	mg/L	0.04812	0.04812		0.05	0	0		0.001		96%	90	110	0%	
Vanadium	A	mg/L	0.0503	0.0503		0.05	0	0		0.005		101%	90	110	0%	
Zinc	A	mg/L	0.05398	0.05398		0.05	0	0		0.01		108%	90	110	0%	
Iron, Ferrous	C	mg/L	1.273	1.273		0.05	0	0		0.01	5	2546%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.428856	0.428856		4.28	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980258	100 ppb STD	ICPMS-6020B-C	Cal8		1/15/2022 2:35:1	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09963	0.09963		0.1	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.09867	0.09867		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.09897	0.09897		0.1	0	0		0.0003		99%	90	110	0%	
Beryllium	A	mg/L	0.1019	0.1019		0.1	0	0		0.001		102%	90	110	0%	
Boron	A	mg/L	0.1036	0.1036		0.1	0	0		0.1		104%	90	110	0%	
Cadmium	A	mg/L	0.0989	0.0989		0.1	0	0		0.001		99%	90	110	0%	
Calcium	A	mg/L	24.37	24.37		25	0	0		1		97%	90	110	0%	
Cerium	A	mg/L	0.00001513	0.00001513		0.1	0	0		0.001		0%	90	110	0%	S
Chromium	A	mg/L	0.09987	0.09987		0.1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.09767	0.09767		0.1	0	0		0.001		98%	90	110	0%	
Copper	A	mg/L	0.1034	0.1034		0.1	0	0		0.005		103%	90	110	0%	
Iron	A	mg/L	2.53	2.53		2.5	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.1055	0.1055		0.1	0	0		0.001		105%	90	110	0%	
Lead	A	mg/L	0.09599	0.09599		0.1	0	0		0.001		96%	90	110	0%	
Lithium	A	mg/L	1.28	1.28		1.25	0	0		1		102%	90	110	0%	
Magnesium	A	mg/L	25.02	25.02		25	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.0978	0.0978		0.1	0	0		0.001		98%	90	110	0%	
Mercury	A	mg/L	-8.105E-06	-8.105E-06		0.002	0	0		0.001		0%	90	110	0%	S
Molybdenum	A	mg/L	0.09942	0.09942		0.1	0	0		0.001		99%	90	110	0%	
Nickel	A	mg/L	0.1034	0.1034		0.1	0	0		0.005		103%	90	110	0%	
Potassium	A	mg/L	24.29	24.29		25	0	0		1		97%	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	0.4007	0.4007		0.4	0	0		0.1		100%	90	110	0%	
Silver	A	mg/L	0.03967	0.03967		0.04	0	0		0.001		99%	90	110	0%	
Sodium	A	mg/L	24.93	24.93		25	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.0964	0.0964		0.1	0	0		0.001		96%	90	110	0%	
Thallium	A	mg/L	0.09817	0.09817		0.1	0	0		0.001		98%	90	110	0%	
Thorium	A	mg/L	0.09727	0.09727		0.1	0	0		0.05		97%	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	0.09857	0.09857		0.1	0	0		0.001		99%	90	110	0%	
Uranium	A	mg/L	0.09491	0.09491		0.1	0	0		0.001		95%	90	110	0%	
Vanadium	A	mg/L	0.09588	0.09588		0.1	0	0		0.005		96%	90	110	0%	
Zinc	A	mg/L	0.1024	0.1024		0.1	0	0		0.01		102%	90	110	0%	
Iron, Ferrous	C	mg/L	2.53	2.53		0.1	0	0		0.01	5	2530%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980258	100 ppb STD	ICPMS-6020B-C	Cal8		1/15/2022 2:35:1	1	R373222		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	0.857498	0.857498		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
14980259	1000 ppb STD	ICPMS-6020B-C	Cal10		1/15/2022 2:41:3	1	R373222		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	0.0002598	0.0002598		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	1	1		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.9996	0.9996		1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.9994	0.9994		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	50.39	50.39		50	0	0		1		101%	90	110	0%	
Cerium	A	mg/L	0.0001156	0.0001156		0	0	0		0.001		0%			0%	
Chromium	A	mg/L	0.9998	0.9998		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	0.9994	0.9994		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.035	6.035		6	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.2522	0.2522		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	2.476	2.476		2.5	0	0		1		99%	90	110	0%	
Magnesium	A	mg/L	49.87	49.87		50	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	1	1		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	-0.00001826	-0.00001826		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0001027	0.0001027		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9994	0.9994		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.4	50.4		50	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.9999	0.9999		1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	-0.01012	-0.01012		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.3594	0.3594		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	49.94	49.94		50	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	1	1		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%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980259	1000 ppb STD	ICPMS-6020B-C	Cal10		1/15/2022 2:41:3	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.0002924	0.0002924		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.006219	0.006219		1	0	0		0.001		1%	90	110	0%	S
Uranium	A	mg/L	1.001	1.001		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	0.9995	0.9995		1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	6.035	6.035		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	-0.0216568	-0.0216568		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
14980260	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/15/2022 2:48:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0003762	0		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00004435	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0004667	0.0004667		0	0	0	0.0001626	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.0001653	0.0001653		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	J
Beryllium	A	mg/L	0.0003036	0.0003036		0	0	0	0.0001137	0.001	1	0%	0	0	0%	J
Cadmium	A	mg/L	0.0001251	0.0001251		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	J
Calcium	A	mg/L	-0.007892	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	0.00004947	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.000154	0.000154		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	J
Iron	A	mg/L	0.0008041	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.0002042	0.0002042		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.0001477	0.0001477		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	J
Molybdenum	A	mg/L	0.00001957	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Potassium	A	mg/L	0.6703	0.6703		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	D
Selenium	A	mg/L	0.0003575	0.0003575		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	0.000172	0.000172		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	0.0001311	0.0001311		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	J
Thallium	A	mg/L	0.0004275	0.0004275		0	0	0	0.0001262	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0002249	0.0002249		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	J
Tin	A	mg/L	0.005733	0.005733		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	D
Titanium	A	mg/L	0.0002502	0.0002502		0	0	0	0.0001844	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.0001626	0.0001626		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	J
Zinc	A	mg/L	0.000269	0		0	0	0	0.0006119	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
14980260	100 ppb Br STD	ICPMS-6020-W-	SAMP		1/15/2022 2:48:0	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron, Ferrous	C	mg/L	0.0008041	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980261	Rinse	ICPMS-6020-W-	SAMP		1/15/2022 2:54:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00502	0.00502		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.000002815	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.00001945	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00001944	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.0000865	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001587	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	-0.01568	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	-0.00007432	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00001091	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	-0.00009851	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L
Lead	A	mg/L	0.00002927	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00002102	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	7.139E-07	0		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	
Potassium	A	mg/L	0.01906	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	0.00005121	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	0.000008566	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.000007574	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00004798	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002658	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.001781	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0.00008612	0		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001089	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.00001375	0		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-0.00009851	0		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist				
14980262	QCS	ICPMS-6020-W-	ICV		1/15/2022 3:00:3	1	R373222		0	0					

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2755	0.2755		0.25	0	0	0.0006966	0.001	1	110%	90	110	0%	
Antimony	A	mg/L	0.04943	0.04943		0.05	0	0	0.0002882	0.001	0.1	99%	90	110	0%	
Arsenic	A	mg/L	0.05298	0.05298		0.05	0	0	0.0001626	0.001	1	106%	90	110	0%	
Barium	A	mg/L	0.05114	0.05114		0.05	0	0	8.917E-05	0.001	1	102%	90	110	0%	
Beryllium	A	mg/L	0.02644	0.02644		0.025	0	0	0.0001137	0.001	1	106%	90	110	0%	
Boron	A	mg/L	0.05829	0.05829		0.05	0	0	0.0036397	0.0036397	1	117%	90	110	0%	S
Cadmium	A	mg/L	0.0257	0.0257		0.025	0	0	2.969E-05	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	2.66	2.66		2.5	0	0	0.0254163	0.0254163	50	106%	90	110	0%	
Cerium	A	mg/L	0.2662	0.2662		0.05	0	0	8.97E-06	0.001	0.1	532%	90	110	0%	S
Chromium	A	mg/L	0.05401	0.05401		0.05	0	0	0.0002078	0.001	1	108%	90	110	0%	
Cobalt	A	mg/L	0.05171	0.05171		0.05	0	0	2.037E-05	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05701	0.05701		0.05	0	0	0.0001010	0.001	1	114%	90	110	0%	S
Iron	A	mg/L	0.2696	0.2696		0.25	0	0	0.0021231	0.0021231	5	108%	90	110	0%	
Lanthanum	A	mg/L	844.1	844.1		0.05	0	0	1.209E-05	0.001	0.1	688200%	90	110	0%	S
Lead	A	mg/L	0.0506	0.0506		0.05	0	0	3.957E-05	0.001	1	101%	90	110	0%	
Lithium	A	mg/L	0.05669	0.05669		0.05	0	0	0.05	0.05	1	113%	90	110	0%	S
Magnesium	A	mg/L	2.784	2.784		2.5	0	0	0.0084694	0.0084694	50	111%	90	110	0%	S
Manganese	A	mg/L	0.2696	0.2696		0.25	0	0	5.319E-05	0.001	1	108%	90	110	0%	
Mercury	A	mg/L	0.0055	0.0055		0.001	0	0	7.78E-06	0.001	0.002	550%	90	110	0%	S
Molybdenum	A	mg/L	0.05041	0.05041		0.05	0	0	0.0000598	0.001	0.1	101%	90	110	0%	
Nickel	A	mg/L	0.05584	0.05584		0.05	0	0	0.0001477	0.001	1	112%	90	110	0%	S
Potassium	A	mg/L	2.74	2.74		2.5	0	0	0.0951865	0.0951865	50	110%	90	110	0%	
Selenium	A	mg/L	0.05317	0.05317		0.05	0	0	6.961E-05	0.001	1	106%	90	110	0%	
Silicon	A	mg/L	0.5521	0.5521		0.5	0	0	0.0786454	0.1	0.4	110%	90	110	0%	
Silver	A	mg/L	0.02622	0.02622		0.025	0	0	1.541E-05	0.001	0.04	105%	90	110	0%	
Sodium	A	mg/L	2.792	2.792		2.5	0	0	0.0321039	0.0321039	50	112%	90	110	0%	S
Strontium	A	mg/L	0.05179	0.05179		0.05	0	0	9.136E-05	0.001	1	104%	90	110	0%	
Thallium	A	mg/L	0.05023	0.05023		0.05	0	0	0.0001262	0.001	1	100%	90	110	0%	
Thorium	A	mg/L	0.05044	0.05044		0.05	0	0	7.051E-05	0.001	1	101%	90	110	0%	
Tin	A	mg/L	0.05104	0.05104		0.05	0	0	0.0021596	0.0021596	0.1	102%	90	110	0%	
Titanium	A	mg/L	0.05125	0.05125		0.05	0	0	0.0001844	0.001	1	102%	90	110	0%	
Uranium	A	mg/L	0.05291	0.05291		0.05	0	0	1.948E-05	0.0003	1	106%	90	110	0%	
Vanadium	A	mg/L	0.05021	0.05021		0.05	0	0	0.004194	0.004194	1	100%	90	110	0%	
Zinc	A	mg/L	0.05465	0.05465		0.05	0	0	0.0006119	0.001	1	109%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2696	0.2696		0	0	0	0.0021231	0.0021231	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
14980263	ICSA	ICPMS-6020-W-	ICSA		1/15/2022 3:06:5	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	39.98	39.98		40	0	0	0.00086	0.001	1	100%	80	120	0%	
Antimony	A	mg/L	0.0001594	0.0001594		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004001	-0.0004001		0	0	0	0.00019	0.001	1	0%			0%	
Barium	A	mg/L	0.0000857	0.0000857		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00002806	0.00002806		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.002344	0.002344		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.0000388	0.0000388		0	0	0	0.000025	0.001	1	0%			0%	
Calcium	A	mg/L	125.6	125.6		120	0	0	0.02092	0.02092	50	105%	80	120	0%	
Cerium	A	mg/L	0.00002285	0.00002285		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.0006686	0.0006686		0	0	0	0.00018	0.001	1	0%			0%	
Cobalt	A	mg/L	0.0003354	0.0003354		0	0	0	0.000042	0.001	1	0%			0%	
Copper	A	mg/L	0.0001572	0.0001572		0	0	0	0.00027	0.001	1	0%			0%	
Iron	A	mg/L	104.7	104.7		100	0	0	0.00119	0.00119	5	105%	80	120	0%	
Lanthanum	A	mg/L	0.1668	0.1668		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00004187	0.00004187		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	41.9	41.9		50	0	0	0.00564	0.00564	50	84%			0%	
Manganese	A	mg/L	0.000181	0.000181		0	0	0	0.000095	0.001	1	0%			0%	
Mercury	A	mg/L	0.00000847	0.00000847		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8222	0.8222		0.8	0	0	0.00005	0.001	0.1	103%	80	120	0%	
Nickel	A	mg/L	0.0001467	0.0001467		0	0	0	0.00063	0.001	1	0%			0%	
Potassium	A	mg/L	41.89	41.89		50	0	0	0.08139	0.08139	50	84%			0%	
Selenium	A	mg/L	0.0001409	0.0001409		0	0	0	0.00033	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01267	-0.01267		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.00001467	0.00001467		0	0	0	0.00002	0.001	0.04	0%			0%	
Sodium	A	mg/L	102.1	102.1		100	0	0	0.02171	0.02171	50	102%			0%	
Strontium	A	mg/L	0.001261	0.001261		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	0.00001115	0.00001115		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.00005607	0.00005607		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.000137	0.000137		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8655	0.8655		0.8	0	0	0.000094	0.001	1	108%			0%	
Uranium	A	mg/L	0.000007222	0.000007222		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.01003	-0.01003		0	0	0	0.0013	0.0013	1	0%			0%	
Zinc	A	mg/L	0.0005185	0.0005185		0	0	0	0.00273	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	104.7	104.7		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
14980264	ICSAB	ICPMS-6020-W-	ICSAB		1/15/2022 3:13:1	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	40.9	40.9		40	0	0	0.00086	0.001	1	102%	80	120	0%	
Antimony	A	mg/L	0.00003859	0.00003859		0	0	0	0.00042	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.009666	0.009666		0.01	0	0	0.00019	0.001	1	97%	80	120	0%	
Barium	A	mg/L	0.00005886	0.00005886		0	0	0	0.000042	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00001924	0.00001924		0	0	0	0.00012	0.001	1	0%			0%	
Boron	A	mg/L	0.001091	0.001091		0	0	0	0.00561	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.009801	0.009801		0.01	0	0	0.000025	0.001	1	98%	80	120	0%	
Calcium	A	mg/L	127.6	127.6		120	0	0	0.02092	0.02092	50	106%	80	120	0%	
Cerium	A	mg/L	0.00001543	0.00001543		0	0	0	0.000012	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.02078	0.02078		0.02	0	0	0.00018	0.001	1	104%	80	120	0%	
Cobalt	A	mg/L	0.02149	0.02149		0.02	0	0	0.000042	0.001	1	107%	80	120	0%	
Copper	A	mg/L	0.02061	0.02061		0.02	0	0	0.00027	0.001	1	103%	80	120	0%	
Iron	A	mg/L	106.3	106.3		100	0	0	0.00119	0.00119	5	106%	80	120	0%	
Lanthanum	A	mg/L	0.1826	0.1826		0	0	0	0.000011	0.001	0.1	0%			0%	
Lead	A	mg/L	0.0000216	0.0000216		0	0	0	0.000056	0.001	1	0%			0%	
Magnesium	A	mg/L	42.42	42.42		40	0	0	0.00564	0.00564	50	106%	80	120	0%	
Manganese	A	mg/L	0.02022	0.02022		0.02	0	0	0.000095	0.001	1	101%	80	120	0%	
Mercury	A	mg/L	-6.83E-07	-6.83E-07		0	0	0	0.00016	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8103	0.8103		0.8	0	0	0.00005	0.001	0.1	101%	80	120	0%	
Nickel	A	mg/L	0.02067	0.02067		0.02	0	0	0.00063	0.001	1	103%	80	120	0%	
Potassium	A	mg/L	41.44	41.44		40	0	0	0.08139	0.08139	50	104%	80	120	0%	
Selenium	A	mg/L	0.01054	0.01054		0.01	0	0	0.00033	0.001	1	105%	80	120	0%	
Silicon	A	mg/L	-0.01292	-0.01292		0	0	0	0.01223	0.1	0.4	0%			0%	
Silver	A	mg/L	0.005142	0.005142		0.005	0	0	0.00002	0.001	0.04	103%	80	120	0%	
Sodium	A	mg/L	102.7	102.7		100	0	0	0.02171	0.02171	50	103%	80	120	0%	
Strontium	A	mg/L	0.00123	0.00123		0	0	0	0.00014	0.001	1	0%			0%	
Thallium	A	mg/L	-0.00003935	-0.00003935		0	0	0	0.000041	0.001	1	0%			0%	
Thorium	A	mg/L	0.00002403	0.00002403		0	0	0	0.00061	0.001	1	0%			0%	
Tin	A	mg/L	0.00006914	0.00006914		0	0	0	0.00132	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8866	0.8866		0.8	0	0	0.000094	0.001	1	111%	80	120	0%	
Uranium	A	mg/L	0.00000378	0.00000378		0	0	0	0.000052	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.008954	0.008954		0.02	0	0	0.0013	0.0013	1	45%	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	106.3	106.3		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
14980265	Rinse	ICPMS-6020-W-	SAMP		1/15/2022 3:19:2	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.005981	0.005981		0	0	0	0.0006966	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	-0.00000986	0		0	0	0	0.0002882	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0006054	0		0	0	0	0.0001626	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.000007828	0		0	0	0	8.917E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	0.0000124	0		0	0	0	0.0001137	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-6.53E-07	0		0	0	0	2.969E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	-0.01079	0		0	0	0	0.0254163	0.0254163	50	0%	0	0	0%	L
Chromium	A	mg/L	-0.0003163	0		0	0	0	0.0002078	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00000564	0		0	0	0	2.037E-05	0.001	1	0%	0	0	0%	
Iron	A	mg/L	0.00302	0.00302		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	D
Lead	A	mg/L	0.000001589	0		0	0	0	3.957E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-0.00001842	0		0	0	0	5.319E-05	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002931	0.0002931		0	0	0	0.0000598	0.001	0.1	0%	0	0	0%	J
Potassium	A	mg/L	0.01198	0		0	0	0	0.0951865	0.0951865	50	0%	0	0	0%	L
Selenium	A	mg/L	-7.984E-06	0		0	0	0	6.961E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.01603	0		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.00000785	0		0	0	0	1.541E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0.000001898	0		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-0.00003892	0		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001319	0		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.001737	0		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	L
Titanium	A	mg/L	0.0002235	0.0002235		0	0	0	0.0001844	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	6.195E-07	0		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.00002481	0		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.00302	0.00302		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
14980266	CCV	ICPMS-6020-W-	CCV		1/15/2022 3:25:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05116	0.05116		0.05	0	0	0.0006966	0.001	1	102%	90	110	0%	
Antimony	A	mg/L	0.05113	0.05113		0.05	0	0	0.0002882	0.001	0.1	102%	90	110	0%	
Arsenic	A	mg/L	0.05144	0.05144		0.05	0	0	0.0001626	0.001	1	103%	90	110	0%	
Barium	A	mg/L	0.05017	0.05017		0.05	0	0	8.917E-05	0.001	1	100%	90	110	0%	
Beryllium	A	mg/L	0.05006	0.05006		0.05	0	0	0.0001137	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
14980266	CCV	ICPMS-6020-W-	CCV		1/15/2022 3:25:4	1	R373222		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.04948	0.04948		0.05	0	0	0.0036397	0.0036397	1	99%	90	110	0%	
Cadmium	A	mg/L	0.04961	0.04961		0.05	0	0	2.969E-05	0.001	1	99%	90	110	0%	
Calcium	A	mg/L	12.97	12.97		12.5	0	0	0.0254163	0.0254163	50	104%	90	110	0%	
Cerium	A	mg/L	0.2418	0.2418		0.05	0	0	8.97E-06	0.001	0.1	484%	90	110	0%	S
Chromium	A	mg/L	0.05186	0.05186		0.05	0	0	0.0002078	0.001	1	104%	90	110	0%	
Cobalt	A	mg/L	0.05346	0.05346		0.05	0	0	2.037E-05	0.001	1	107%	90	110	0%	
Copper	A	mg/L	0.05338	0.05338		0.05	0	0	0.0001010	0.001	1	107%	90	110	0%	
Iron	A	mg/L	1.337	1.337		1.3	0	0	0.0021231	0.0021231	5	103%	90	110	0%	
Lanthanum	A	mg/L	0.04807	0.04807		0.05	0	0	1.209E-05	0.001	0.1	96%	90	110	0%	
Lead	A	mg/L	0.0493	0.0493		0.05	0	0	3.957E-05	0.001	1	99%	90	110	0%	
Lithium	A	mg/L	0.6075	0.6075		0.625	0	0	0.05	0.05	1	97%	90	110	0%	
Magnesium	A	mg/L	12.51	12.51		12.5	0	0	0.0084694	0.0084694	50	100%	90	110	0%	
Manganese	A	mg/L	0.05186	0.05186		0.05	0	0	5.319E-05	0.001	1	104%	90	110	0%	
Mercury	A	mg/L	0.005024	0.005024		0.001	0	0	7.78E-06	0.001	0.002	502%	90	110	0%	S
Molybdenum	A	mg/L	0.0512	0.0512		0.05	0	0	0.0000598	0.001	0.1	102%	90	110	0%	
Nickel	A	mg/L	0.05378	0.05378		0.05	0	0	0.0001477	0.001	1	108%	90	110	0%	
Potassium	A	mg/L	12.99	12.99		12.5	0	0	0.0951865	0.0951865	50	104%	90	110	0%	
Selenium	A	mg/L	0.05247	0.05247		0.05	0	0	6.961E-05	0.001	1	105%	90	110	0%	
Silicon	A	mg/L	0.1929	0.1929		0.2	0	0	0.0786454	0.1	0.4	96%	90	110	0%	
Silver	A	mg/L	0.0201	0.0201		0.02	0	0	1.541E-05	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	12.49	12.49		12.5	0	0	0.0321039	0.0321039	50	100%	90	110	0%	
Strontium	A	mg/L	0.05166	0.05166		0.05	0	0	9.136E-05	0.001	1	103%	90	110	0%	
Thallium	A	mg/L	0.04913	0.04913		0.05	0	0	0.0001262	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.04759	0.04759		0.05	0	0	7.051E-05	0.001	1	95%	90	110	0%	
Tin	A	mg/L	0.04983	0.04983		0.05	0	0	0.0021596	0.0021596	0.1	100%	90	110	0%	
Titanium	A	mg/L	0.05504	0.05504		0.05	0	0	0.0001844	0.001	1	110%	90	110	0%	
Uranium	A	mg/L	0.04953	0.04953		0.05	0	0	1.948E-05	0.0003	1	99%	90	110	0%	
Vanadium	A	mg/L	0.04224	0.04224		0.05	0	0	0.004194	0.004194	1	84%	90	110	0%	S
Zinc	A	mg/L	0.05308	0.05308		0.05	0	0	0.0006119	0.001	1	106%	90	110	0%	
Iron, Ferrous	C	mg/L	1.337	1.337		0	0	0	0.0021231	0.0021231	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
14980267	CCB	ICPMS-6020-W-	CCB		1/15/2022 3:31:5	1	R373222		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			
14980267	CCB	ICPMS-6020-W-	CCB		1/15/2022 3:31:5	1	R373222		0	0				

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001482	0.0001482		0	0	0	0.0006966	0.001	1	0%			0%	
Antimony	A	mg/L	0.00008848	0.00008848		0	0	0	0.0002882	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0004816	-0.0004816		0	0	0	0.0001626	0.001	1	0%			0%	
Barium	A	mg/L	-9.178E-06	-9.178E-06		0	0	0	8.917E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00002816	0.00002816		0	0	0	0.0001137	0.001	1	0%			0%	
Boron	A	mg/L	0.00008961	0.00008961		0	0	0	0.0036397	0.0036397	1	0%			0%	
Cadmium	A	mg/L	0.00001032	0.00001032		0	0	0	2.969E-05	0.001	1	0%			0%	
Calcium	A	mg/L	-0.01542	-0.01542		0	0	0	0.0254163	0.0254163	50	0%			0%	
Cerium	A	mg/L	7.071E-07	7.071E-07		0	0	0	8.97E-06	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0002178	-0.0002178		0	0	0	0.0002078	0.001	1	0%			0%	
Cobalt	A	mg/L	-1.262E-06	-1.262E-06		0	0	0	2.037E-05	0.001	1	0%			0%	
Copper	A	mg/L	0.00008359	0.00008359		0	0	0	0.0001010	0.001	1	0%			0%	
Iron	A	mg/L	0.0004959	0.0004959		0	0	0	0.0021231	0.0021231	5	0%			0%	
Lanthanum	A	mg/L	0.002645	0.002645		0	0	0	1.209E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.000005	0.000005		0	0	0	3.957E-05	0.001	1	0%			0%	
Lithium	A	mg/L	0.001846	0.001846		0	0	0	0.05	0.05	1	0%			0%	
Magnesium	A	mg/L	-0.0001503	-0.0001503		0	0	0	0.0084694	0.0084694	50	0%			0%	
Manganese	A	mg/L	-0.00001963	-0.00001963		0	0	0	5.319E-05	0.001	1	0%			0%	
Mercury	A	mg/L	-8.472E-06	-8.472E-06		0	0	0	7.78E-06	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00005319	0.00005319		0	0	0	0.0000598	0.001	0.1	0%			0%	
Nickel	A	mg/L	-0.00002858	-0.00002858		0	0	0	0.0001477	0.001	1	0%			0%	
Potassium	A	mg/L	0.01252	0.01252		0	0	0	0.0951865	0.0951865	50	0%			0%	
Selenium	A	mg/L	0.000008565	0.000008565		0	0	0	6.961E-05	0.001	1	0%			0%	
Silicon	A	mg/L	-0.01579	-0.01579		0	0	0	0.0786454	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.000002166	0.000002166		0	0	0	1.541E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.03837	0.03837		0	0	0	0.0321039	0.0321039	50	0%			0%	
Strontium	A	mg/L	-1.239E-06	-1.239E-06		0	0	0	9.136E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0002161	0.0002161		0	0	0	0.0001262	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001895	0.00001895		0	0	0	7.051E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00004763	0.00004763		0	0	0	0.0021596	0.0021596	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.0001226	0.0001226		0	0	0	0.0001844	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000002945	0.000002945		0	0	0	1.948E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.008841	-0.008841		0	0	0	0.004194	0.004194	1	0%	0	0	0%	
Zinc	A	mg/L	-0.00001524	-0.00001524		0	0	0	0.0006119	0.001	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0004959	0.0004959		0	0	0	0.0021231	0.0021231	5	0%	0	0	0%	

Batch Summary Report

Batch Folder: D:\Agilent\ICPMH\1\DATA\220114ADoD.b\
Analysis File: 220114ADoD.batch.bin
Tune Step: #1 No Gas
#2 H2
#3 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		2022-01-14 11:54:19	001BLKV.d	Rinse	BlkVrfy		1.0000
2		2022-01-14 12:00:34	002BLKV.d	Rinse	BlkVrfy		1.0000
3		2022-01-14 12:06:48	003CALB.d	Cal Blk	CalBlk	1	1.0000
4		2022-01-14 12:13:32	004CALS.d	0.025 ppb STD	CalStd	2	1.0000
5		2022-01-14 12:20:10	005CALS.d	0.05 ppb STD	CalStd	3	1.0000
6		2022-01-14 12:26:48	006CALS.d	0.10 ppb STD	CalStd	4	1.0000
7		2022-01-14 12:33:25	007CALS.d	0.5 ppb STD	CalStd	5	1.0000
8		2022-01-14 12:40:03	008CALS.d	1 ppb STD	CalStd	6	1.0000
9		2022-01-14 12:46:40	009CALS.d	10 ppb STD	CalStd	7	1.0000
10		2022-01-14 12:53:18	010CALS.d	50 ppb STD	CalStd	8	1.0000
11		2022-01-14 12:59:53	011CALS.d	100 ppb STD	CalStd	9	1.0000
12		2022-01-14 13:06:27	012CALS.d	1000 ppb STD	CalStd	10	1.0000
13		2022-01-14 13:12:59	013CALS.d	100 ppb Br STD	CalStd	11	1.0000
14		2022-01-14 13:19:23	014BLKV.d	Rinse	BlkVrfy		1.0000
15		2022-01-14 13:25:36	015_QC1.d	QCS	QC1		1.0000
16		2022-01-14 13:32:57	016_CCV.d	CCV	CCV		1.0000
17		2022-01-14 13:39:11	017_CCB.d	CCB	CCB		1.0000
18		2022-01-14 13:45:26	018MBLK.d	LRB	MBLK		1.0000
19		2022-01-14 13:51:41	019_LFB.d	LFB	LFB		1.0300
20		2022-01-14 13:57:57	020ICSA.d	ICSA	ICSA		1.0000
21		2022-01-14 14:04:14	021ICSB.d	ICSAB	ICSAB		1.0000
22		2022-01-14 14:10:31	022BLKV.d	Rinse	BlkVrfy		1.0000
23		2022-01-14 14:16:44	023BLKV.d	Rinse	BlkVrfy		1.0000
24		2022-01-14 14:22:58	024_CCV.d	CCV	CCV		1.0000
25		2022-01-14 14:29:12	025_CCB.d	CCB	CCB		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
26		2022-01-14 14:35:26	026BLKV.d	Rinse	BlkVrfy		1.0000
27		2022-01-14 14:41:40	027SMPL.d	B22010212-001A	Sample		1.0000
28		2022-01-14 14:47:53	028ARef.d	B22010212-001ADIL	AllRef		5.0000
29		2022-01-14 14:54:06	029MS.d	B22010212-001AMS	MS		1.0300
30		2022-01-14 15:00:21	030MSD.d	B22010212-001AMSD	MSD		1.0300
31		2022-01-14 15:06:35	031BLKV.d	Rinse	BlkVrfy		1.0000
32		2022-01-14 15:12:48	032SMPL.d	B22010213-003A	Sample		1.0000
33		2022-01-14 15:19:01	033SMPL.d	B22010214-001A	Sample		1.0000
34		2022-01-14 15:25:15	034SMPL.d	B22010219-001A	Sample		1.0000
35		2022-01-14 15:31:29	035SMPL.d	B22010366-001A	Sample		1.0000
36		2022-01-14 15:37:42	036SMPL.d	B22010369-001A	Sample		1.0000
37		2022-01-14 15:43:56	037SMPL.d	B22010403-001A	Sample		1.0000
38		2022-01-14 15:50:09	038_CCV.d	CCV	CCV		1.0000
39		2022-01-14 15:56:24	039_CCB.d	CCB	CCB		1.0000
40		2022-01-14 16:02:37	040SMPL.d	B22010406-001A	Sample		1.0000
41		2022-01-14 16:08:52	041SMPL.d	B22010409-001A	Sample		1.0000
42		2022-01-14 16:15:05	042SMPL.d	B22010410-001A	Sample		1.0000
43		2022-01-14 16:21:19	043SMPL.d	B22010411-001A	Sample		1.0000
44		2022-01-14 16:27:34	044ARef.d	B22010411-001ADIL	AllRef		5.0000
45		2022-01-14 16:33:49	045MS.d	B22010411-001AMS	MS		1.0300
46		2022-01-14 16:40:03	046MSD.d	B22010411-001AMSD	MSD		1.0300
47		2022-01-14 16:46:18	047BLKV.d	Rinse	BlkVrfy		1.0000
48		2022-01-14 16:52:31	048ARef.d	MB-162926	AllRef		1.0000
49		2022-01-14 16:58:44	049LCS4.d	LCS4-162926	LCS4		1.0000
50		2022-01-14 17:04:57	050BLKV.d	Rinse	BlkVrfy		1.0000
51		2022-01-14 17:11:11	051SMPL.d	B22010507-001A	Sample		1.0000
52		2022-01-14 17:17:25	052_CCV.d	CCV	CCV		1.0000
53		2022-01-14 17:23:39	053_CCB.d	CCB	CCB		1.0000
54		2022-01-14 17:29:54	054SMPL.d	B22010507-001B	Sample		1.0000
55		2022-01-14 17:36:08	055SMPL.d	B22010507-001BDIL	Sample		5.0000
56		2022-01-14 17:42:21	056ARef.d	B22010507-001BPDS1	AllRef		1.0300
57		2022-01-14 17:48:35	057MS4.d	B22010507-001BMS4	MS4		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
58		2022-01-14 17:54:50	058MSD4.d	B22010507-001BMSD4	MSD4		1.0000
59		2022-01-14 18:01:05	059BLKV.d	Rinse	BlkVrfy		1.0000
60		2022-01-14 18:07:18	060SMPL.d	B22010625-001A	Sample		1.0000
61		2022-01-14 18:13:32	061SMPL.d	B22010625-001B	Sample		1.0000
62		2022-01-14 18:19:46	062SMPL.d	B22010626-001A	Sample		1.0000
63		2022-01-14 18:25:59	063SMPL.d	B22010626-001B	Sample		1.0000
64		2022-01-14 18:32:14	064SMPL.d	B22010628-001A	Sample		1.0000
65		2022-01-14 18:38:28	065_CCV.d	CCV	CCV		1.0000
66		2022-01-14 18:44:42	066_CCB.d	CCB	CCB		1.0000
67		2022-01-14 18:50:57	067SMPL.d	B22010628-001B	Sample		1.0000
68		2022-01-14 18:57:10	068SMPL.d	B22010629-001A	Sample		1.0000
69		2022-01-14 19:03:24	069SMPL.d	B22010629-001B	Sample		1.0000
70		2022-01-14 19:09:37	070SMPL.d	B22010633-001A	Sample		1.0000
71		2022-01-14 19:15:50	071SMPL.d	B22010633-001B	Sample		1.0000
72		2022-01-14 19:22:04	072SMPL.d	B22010637-001A	Sample		1.0000
73		2022-01-14 19:28:17	073SMPL.d	B22010637-001B	Sample		1.0000
74		2022-01-14 19:34:30	074_CCV.d	CCV	CCV		1.0000
75		2022-01-14 19:40:45	075_CCB.d	CCB	CCB		1.0000
76		2022-01-14 19:46:59	076CALB.d	Cal Blk	CalBlk	1	1.0000
77		2022-01-14 19:53:23	077CALS.d	0.025 ppb STD	CalStd	2	1.0000
78		2022-01-14 19:59:47	078CALS.d	0.05 ppb STD	CalStd	3	1.0000
79		2022-01-14 20:06:10	079CALS.d	0.10 ppb STD	CalStd	4	1.0000
80		2022-01-14 20:12:33	080CALS.d	0.5 ppb STD	CalStd	5	1.0000
81		2022-01-14 20:18:57	081CALS.d	1 ppb STD	CalStd	6	1.0000
82		2022-01-14 20:25:20	082CALS.d	10 ppb STD	CalStd	7	1.0000
83		2022-01-14 20:31:44	083CALS.d	50 ppb STD	CalStd	8	1.0000
84		2022-01-14 20:38:06	084CALS.d	100 ppb STD	CalStd	9	1.0000
85		2022-01-14 20:44:32	085CALS.d	1000 ppb STD	CalStd	10	1.0000
86		2022-01-14 20:50:56	086CALS.d	100 ppb Br STD	CalStd	11	1.0000
87		2022-01-14 20:57:19	087BLKV.d	Rinse	BlkVrfy		1.0000
88		2022-01-14 21:03:33	088_QC1.d	QCS	QC1		1.0000
89		2022-01-14 21:09:47	089BLKV.d	Rinse	BlkVrfy		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
90		2022-01-14 21:16:01	090_CCV.d	CCV	CCV		1.0000
91		2022-01-14 21:22:15	091_CCB.d	CCB	CCB		1.0000
92		2022-01-14 21:28:30	092ARef.d	MB-162926	AllRef		1.0000
93		2022-01-14 21:34:43	093SMPL.d	B22010641-001A	Sample		1.0000
94		2022-01-14 21:40:57	094SMPL.d	B22010641-001B	Sample		1.0000
95		2022-01-14 21:47:10	095SMPL.d	B22010643-001A	Sample		1.0000
96		2022-01-14 21:53:23	096SMPL.d	B22010643-001B	Sample		1.0000
97		2022-01-14 21:59:38	097SMPL.d	B22010750-001A	Sample		1.0000
98		2022-01-14 22:05:53	098ARef.d	B22010750-001ADIL	AllRef		5.0000
99		2022-01-14 22:12:08	099MS.d	B22010750-001AMS	MS		1.0300
100		2022-01-14 22:18:23	100MSD.d	B22010750-001AMSD	MSD		1.0300
101		2022-01-14 22:24:37	101BLKV.d	Rinse	BlkVrfy		1.0000
102		2022-01-14 22:30:51	102SMPL.d	B22010750-001B	Sample		1.0000
103		2022-01-14 22:37:04	103_CCV.d	CCV	CCV		1.0000
104		2022-01-14 22:43:19	104_CCB.d	CCB	CCB		1.0000
105		2022-01-14 22:49:33	105SMPL.d	B22010751-001A	Sample		1.0000
106		2022-01-14 22:55:47	106SMPL.d	B22010751-001B	Sample		1.0000
107		2022-01-14 23:02:02	107SMPL.d	B22010751-001BDIL	Sample		5.0000
108		2022-01-14 23:08:15	108ARef.d	B22010751-001BPDS1	AllRef		1.0300
109		2022-01-14 23:14:29	109MS4.d	B22010751-001BMS4	MS4		1.0000
110		2022-01-14 23:20:44	110MSD4.d	B22010751-001BMSD4	MSD4		1.0000
111		2022-01-14 23:26:58	111BLKV.d	Rinse	BlkVrfy		1.0000
112		2022-01-14 23:33:11	112SMPL.d	B22010753-001A	Sample		1.0000
113		2022-01-14 23:39:25	113SMPL.d	B22010753-001B	Sample		1.0000
114		2022-01-14 23:45:40	114SMPL.d	B22010754-001A	Sample		1.0000
115		2022-01-14 23:51:55	115SMPL.d	B22010754-001B	Sample		1.0000
116		2022-01-14 23:58:10	116_CCV.d	CCV	CCV		1.0000
117		2022-01-15 00:04:24	117_CCB.d	CCB	CCB		1.0000
118		2022-01-15 00:10:38	118SMPL.d	B22010755-001A	Sample		1.0000
119		2022-01-15 00:16:51	119SMPL.d	B22010755-001B	Sample		1.0000
120		2022-01-15 00:23:04	120SMPL.d	B22010756-001A	Sample		1.0000
121		2022-01-15 00:29:20	121SMPL.d	B22010756-001B	Sample		1.0000

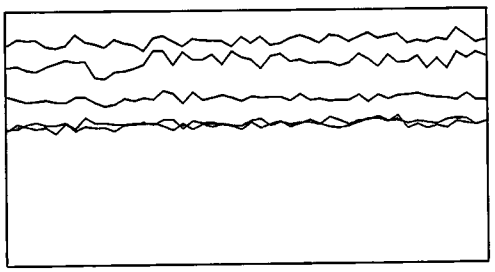
	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
122		2022-01-15 00:35:35	122SMPL.d	B22010757-001A	Sample		1.0000
123		2022-01-15 00:41:49	123SMPL.d	B22010757-001B	Sample		1.0000
124		2022-01-15 00:48:02	124SMPL.d	B22010758-001A	Sample		1.0000
125		2022-01-15 00:54:15	125SMPL.d	B22010758-001B	Sample		1.0000
126		2022-01-15 01:00:28	126SMPL.d	B22010759-001A	Sample		1.0000
127		2022-01-15 01:06:41	127SMPL.d	B22010759-001B	Sample		1.0000
128		2022-01-15 01:12:56	128_CCV.d	CCV	CCV		1.0000
129		2022-01-15 01:19:10	129_CCB.d	CCB	CCB		1.0000
130		2022-01-15 01:25:24	130BLKV.d	Rinse	BlkVrfy		1.0000
131		2022-01-15 01:31:37	131_CCV.d	CCV	CCV		1.0000
132		2022-01-15 01:37:52	132_CCB.d	CCB	CCB		1.0000
133		2022-01-15 01:44:07	133CALB.d	Cal Blk	CalBlk	1	1.0000
134		2022-01-15 01:50:31	134CALS.d	0.025 ppb STD	CalStd	2	1.0000
135		2022-01-15 01:56:54	135CALS.d	0.05 ppb STD	CalStd	3	1.0000
136		2022-01-15 02:03:18	136CALS.d	0.10 ppb STD	CalStd	4	1.0000
137		2022-01-15 02:09:41	137CALS.d	0.5 ppb STD	CalStd	5	1.0000
138		2022-01-15 02:16:05	138CALS.d	1 ppb STD	CalStd	6	1.0000
139		2022-01-15 02:22:29	139CALS.d	10 ppb STD	CalStd	7	1.0000
140		2022-01-15 02:28:52	140CALS.d	50 ppb STD	CalStd	8	1.0000
141		2022-01-15 02:35:14	141CALS.d	100 ppb STD	CalStd	9	1.0000
142		2022-01-15 02:41:38	142CALS.d	1000 ppb STD	CalStd	10	1.0000
143		2022-01-15 02:48:03	143CALS.d	100 ppb Br STD	CalStd	11	1.0000
144		2022-01-15 02:54:25	144BLKV.d	Rinse	BlkVrfy		1.0000
145		2022-01-15 03:00:39	145_QC1.d	QCS	QC1		1.0000
146		2022-01-15 03:06:55	146ICSA.d	ICSA	ICSA		1.0000
147		2022-01-15 03:13:12	147ICSB.d	ICSAB	ICSAB		1.0000
148		2022-01-15 03:19:28	148BLKV.d	Rinse	BlkVrfy		1.0000
149		2022-01-15 03:25:42	149_CCV.d	CCV	CCV		1.0000
150		2022-01-15 03:31:56	150_CCB.d	CCB	CCB		1.0000

Tune Report

Operator Name	elim
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\220114A.b
Acq. Date-Time	2022-01-14 11:08:32
Report Comment	ICPMS207-B JPV
Instrument Name	G8403A JP17281923

[No Gas]

Sensitivity



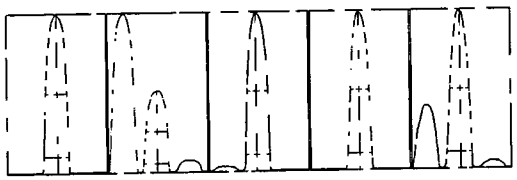
Mass	Range	Count	RSD%	Background
9	200000	130182	1.945	5.000
24	50000	27711	1.913	2.700
59	50000	44212	1.883	3.200
115	50000	27191	2.307	5.200
208	10000	7979	3.290	10.100

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

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.000 %
Doubly Charged	70 / 140 1.772 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	133219.18	9.05	0.65	0.769
24	27395.16	24.00	0.65	0.765
59	45044.35	58.95	0.61	0.728
115	27360.88	115.00	0.56	0.726
208	8145.66	208.00	0.58	0.758

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

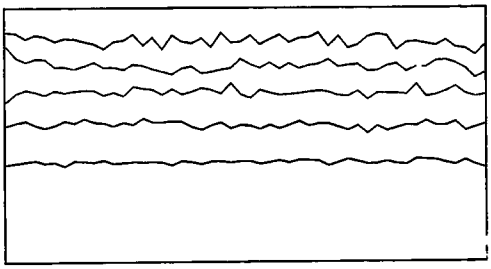
Extract 1	0.0 V	Omega Lens	7.1 V	Deflect	15.0 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V

Tune Report

Omega Bias	-110 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	126	Axis Offset	0 10		
Hardware Settings					
Torch					
Torch H	-0.5 mm	Torch V	0.1 mm		
EM					
Discriminator	5.1 mV	Analog HV	2266 V	Pulse HV	1630 V

[H2]

Sensitivity



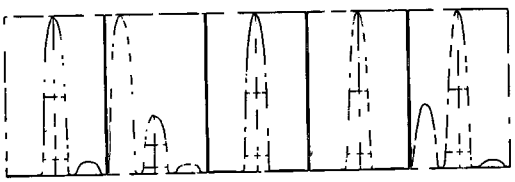
Mass	Range	Count	RSD%	Background
9	20000	17470	2.425	0.200
24	10000	7735	2.675	0.100
59	50000	19468	1.856	0.100
115	50000	33382	2.115	0.300
208	20000	10783	2.348	0.500

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

Oxide/Doubly Charged Ratio

Oxide	—
Doubly Charged	70 / 140 1.056 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	17085.25	9.00	0.63	0.764
24	7747.64	23.95	0.64	0.735
59	19527.65	59.00	0.62	0.726
115	32588.18	115.05	0.55	0.717
208	10921.74	208.00	0.59	0.758

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 4 V	Deflect	2.4 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-120 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	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

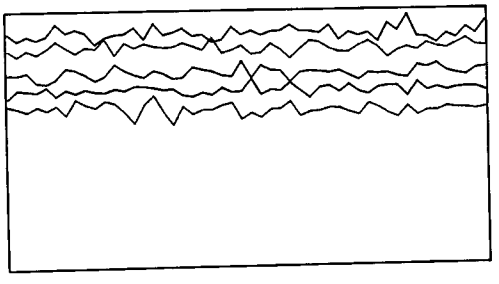
Torch H	-0.5 mm	Torch V	0.1 mm

EM

Discriminator	5 1 mV	Analog HV	2266 V	Pulse HV	1630 V

[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	2000	1519	2.526	4 300
24	2000	1230	3 818	1 700
59	20000	13836	2 185	0.800
115	10000	8597	2 172	1 600
208	5000	4584	2.507	3 100

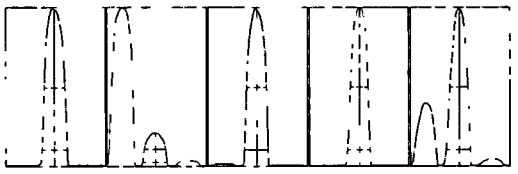
Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	—
Doubly Charged	70 / 140 1.459 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	1515.80	9.00	0.63	0.763
24	1223.04	24.00	0.64	0.733
59	14018.60	59.00	0.61	0.723
115	8460.01	115.05	0.54	0.698
208	4660.35	208.00	0.55	0.733

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	1.4 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-115 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	-0.5 mm	Torch V	0.1 mm

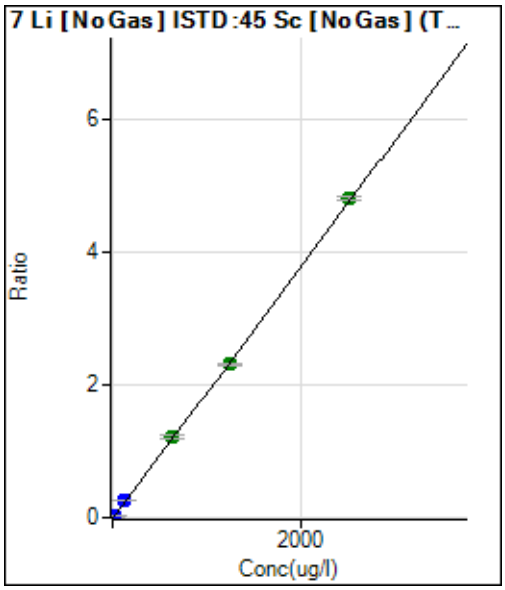
EM

Discriminator	5.1 mV	Analog HV	2266 V	Pulse HV	1630 V

Calibration for 007CALS.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\220114ADoD.b\
Analysis File: 220114ADoD.batch.bin
DA Date-Time: 2022-01-14 13:53:41
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

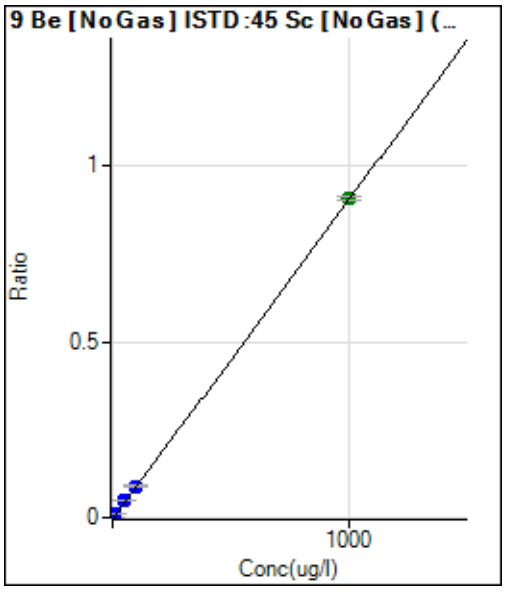
Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	Cal Blk	2022-01-14 12:06:48
2	004CALS.d	0.025 ppb STD	2022-01-14 12:13:32
3	005CALS.d	0.05 ppb STD	2022-01-14 12:20:10
4	006CALS.d	0.10 ppb STD	2022-01-14 12:26:48
5	007CALS.d	0.5 ppb STD	2022-01-14 12:33:25
6	008CALS.d	1 ppb STD	2022-01-14 12:40:03
7	009CALS.d	10 ppb STD	2022-01-14 12:46:40
8	010CALS.d	50 ppb STD	2022-01-14 12:53:18
9	011CALS.d	100 ppb STD	2022-01-14 12:59:53
10	012CALS.d	1000 ppb STD	2022-01-14 13:06:27
11	013CALS.d	100 ppb Br STD	2022-01-14 13:12:59



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11522.31	0.0043	P	2.3	
2	☐	0.313	0.104	12237.17	0.0045	P	1.5	-66.8
3	☐	0.625	0.370	13647.59	0.0050	P	2.2	-40.9
4	☐	1.250	0.997	16866.09	0.0062	P	2.2	-20.3
5	☐	6.250	6.487	45794.92	0.0167	P	3.5	3.8
6	☐	12.500	13.913	85307.13	0.0309	P	4.1	11.3
7	☐	125.000	140.381	743548.63	0.2726	P	0.3	12.3
8	☐	625.000	633.873	3356148.13	1.2160	A	3.3	1.4
9	☐	1250.000	1206.130	6593815.04	2.3100	A	1.1	-3.5
10	☐	2500.000	2518.940	13650989.75	4.8197	A	1.2	0.8
11	☐			26038.65	0.0094	P	3.1	

y = 0.0019 * x + 0.0043
R = 0.9998
DL = 0.1555 ug/l
BEC = 2.241 ug/l

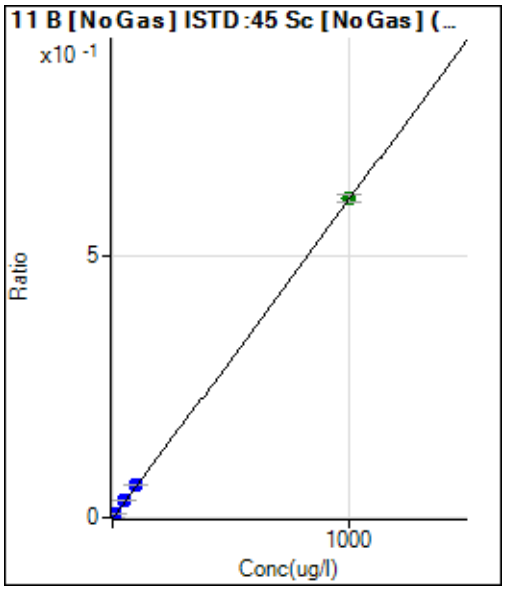
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	257.95	0.0001	P	4.9	
2	☐	0.025	0.023	318.61	0.0001	P	0.9	-8.3
3	☐	0.050	0.045	373.26	0.0001	P	2.9	-10.6
4	☐	0.100	0.160	659.00	0.0002	P	40.7	59.8
5	☐	0.500	0.523	1568.77	0.0006	P	2.4	4.6
6	☐	1.000	1.086	2991.37	0.0011	P	2.8	8.6
7	☐	10.000	10.934	27359.09	0.0100	P	1.4	9.3
8	☐	50.000	51.895	130420.64	0.0473	P	3.0	3.8
9	☐	100.000	99.195	257565.88	0.0902	P	1.6	-0.8
10	☐	1000.000	999.976	2573861.10	0.9088	A	1.2	0.0
11	☐			477.58	0.0002	P	4.9	

y = 9.0870E-004 * x + 9.5858E-005
R = 1.0000
DL = 0.01546 ug/l
BEC = 0.1055 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2137.68	0.0008	P	5.9	
2	☐			1952.92	0.0007	P	3.8	
3	☐	0.050	-0.132	1954.25	0.0007	P	4.2	-363.5
4	☐	0.100	-0.158	1905.55	0.0007	P	2.5	-257.5
5	☐	0.500	0.183	2489.21	0.0009	P	3.3	-63.5
6	☐	1.000	0.752	3462.46	0.0013	P	2.2	-24.8
7	☐	10.000	10.712	19947.10	0.0073	P	0.8	7.1
8	☐	50.000	52.271	89993.40	0.0326	P	3.4	4.5
9	☐	100.000	98.864	174015.26	0.0610	P	1.2	-1.1
10	☐	1000.000	999.993	1725846.82	0.6094	A	2.2	0.0
11	☐			23679.97	0.0085	P	4.6	

y = 6.0861E-004 * x + 7.9500E-004

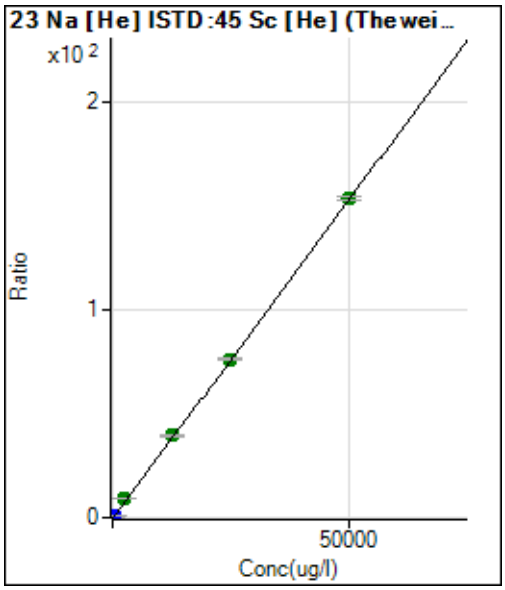
R = 1.0000

DL = 0.2307 ug/l

BEC = 1.306 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	56864.77	0.2516	P	1.9	
2	☐	6.250	7.403	62623.95	0.2743	P	2.3	18.5
3	☐	12.500	13.601	65847.59	0.2933	P	0.7	8.8
4	☐	25.000	28.328	76067.56	0.3384	P	0.8	13.3
5	☐	125.000	140.184	151767.61	0.6809	P	2.1	12.1
6	☐	250.000	292.012	259057.08	1.1458	P	1.0	16.8
7	☐	2500.000	2825.859	2025778.48	8.9052	A	2.1	13.0
8	☐	12500.00	12784.35	9121495.28	39.4010	A	1.2	2.3
9	☐	25000.00	24738.30	18406175.01	76.0074	A	1.2	-1.0
10	☐	50000.00	50043.21	37225520.00	153.498	A	1.5	0.1
11	☐			79174.46	0.3400	P	0.9	

y = 0.0031 * x + 0.2516

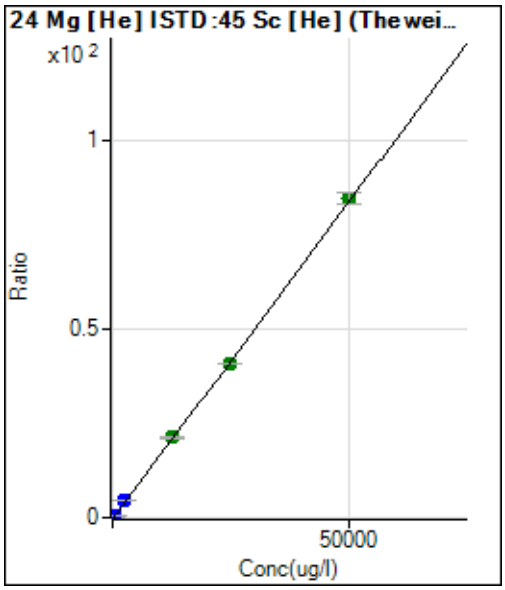
R = 1.0000

DL = 4.582 ug/l

BEC = 82.16 ug/l

Weight: 1/y

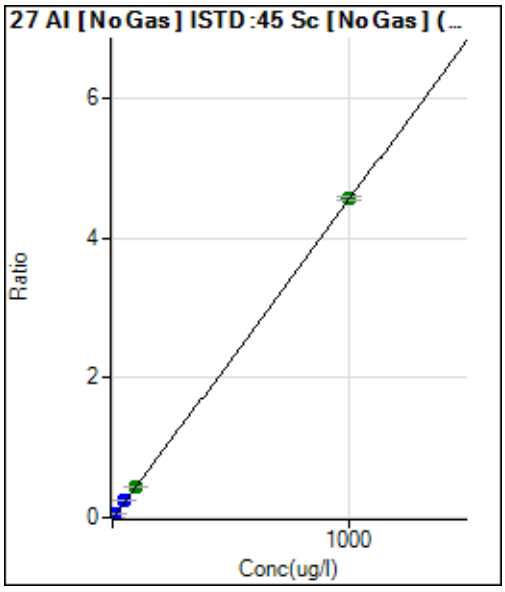
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1533.70	0.0068	P	5.2	
2	☐	6.250	7.237	4328.72	0.0190	P	11.6	15.8
3	☐	12.500	14.748	7094.28	0.0316	P	4.5	18.0
4	☐	25.000	29.481	12680.22	0.0564	P	1.1	17.9
5	☐	125.000	145.713	56186.65	0.2520	P	0.9	16.6
6	☐	250.000	291.494	112462.17	0.4974	P	0.8	16.6
7	☐	2500.000	2804.210	1075493.32	4.7267	P	1.0	12.2
8	☐	12500.00	12619.34	4918861.36	21.2472	A	1.6	1.0
9	☐	25000.00	24201.89	9866473.76	40.7425	A	0.4	-3.2
10	☐	50000.00	50353.74	20551957.86	84.7603	A	3.3	0.7
11	☐			4082.47	0.0175	P	1.5	

y = 0.0017 * x + 0.0068
R = 0.9998
DL = 0.6328 ug/l
BEC = 4.031 ug/l

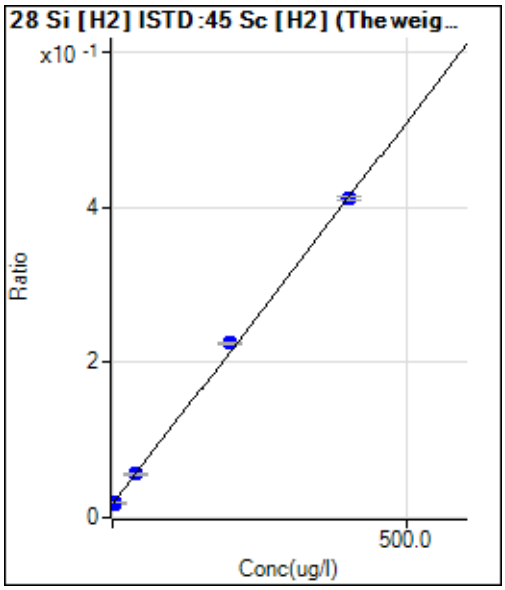
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9684.28	0.0036	P	2.1	
2	☐			11995.95	0.0044	P	1.4	
3	☐	0.050	0.065	10652.72	0.0039	P	2.7	29.3
4	☐	0.100	0.099	11038.55	0.0041	P	3.5	-1.3
5	☐	0.500	0.554	16822.83	0.0061	P	3.6	10.8
6	☐	1.000	1.142	24337.60	0.0088	P	5.8	14.2
7	☐	10.000	11.007	146846.20	0.0538	P	1.1	10.1
8	☐	50.000	51.980	664815.85	0.2409	P	3.3	4.0
9	☐	100.000	96.666	1269836.27	0.4449	A	1.3	-3.3
10	☐	1000.000	1000.224	12941835.92	4.5695	A	1.0	0.0
11	☐			13226.99	0.0048	P	1.1	

y = 0.0046 * x + 0.0036
R = 1.0000
DL = 0.04852 ug/l
BEC = 0.7887 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	31551.76	0.0198	P	1.3	
2	☐			30448.35	0.0194	P	0.8	
3	☐	0.200	-1.918	28361.45	0.0179	P	3.1	-1058.9
4	☐	0.400	-2.960	26344.31	0.0169	P	1.1	-839.9
5	☐	2.000	-2.597	26949.63	0.0172	P	1.3	-229.8
6	☐	4.000	-0.017	30181.76	0.0198	P	9.9	-100.4
7	☐	40.000	36.674	88203.16	0.0560	P	1.8	-8.3
8	☐	200.000	207.830	355779.86	0.2250	P	1.0	3.9
9	☐	400.000	396.485	656406.80	0.4112	P	0.7	-0.9
10	☐			25576.03	0.0159	P	1.6	
11	☐			21626.24	0.0134	P	2.5	

y = 9.8721E-004 * x + 0.0198

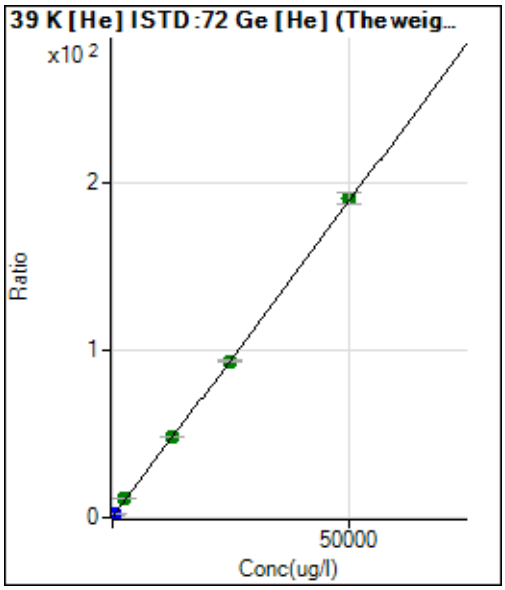
R = 0.9996

DL = 0.8086 ug/l

BEC = 20.04 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	159548.52	1.2713	P	2.7	
2	☐	6.250	3.925	162565.33	1.2862	P	1.0	-37.2
3	☐	12.500	12.965	165002.73	1.3203	P	3.1	3.7
4	☐	25.000	25.454	169695.52	1.3676	P	2.6	1.8
5	☐	125.000	131.226	219400.05	1.7675	P	0.6	5.0
6	☐	250.000	279.960	294159.72	2.3300	P	2.7	12.0
7	☐	2500.000	2722.951	1460755.45	11.5680	A	2.2	8.9
8	☐	12500.00	12539.44	6243851.72	48.6885	A	1.0	0.3
9	☐	25000.00	24464.28	12501164.82	93.7816	A	0.5	-2.1
10	☐	50000.00	50246.68	25970737.95	191.276	A	3.5	0.5
11	☐			492145.06	3.8675	P	2.3	

y = 0.0038 * x + 1.2713

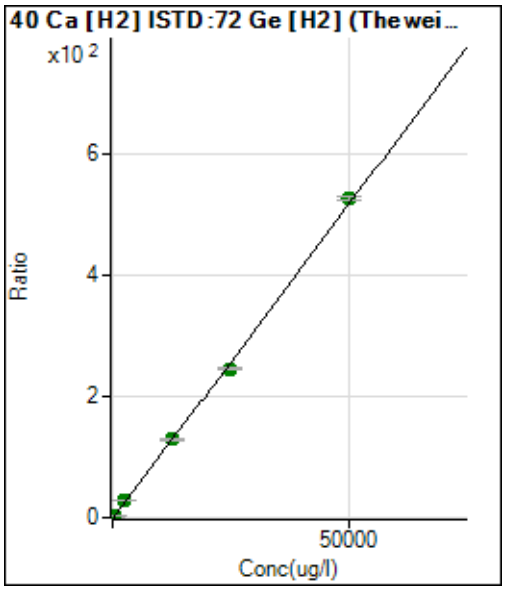
R = 0.9999

DL = 27.47 ug/l

BEC = 336.2 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	229028.24	0.4118	P	0.9	
2	☐	6.250	9.883	283875.38	0.5144	P	1.5	58.1
3	☐	12.500	13.555	311430.75	0.5525	P	1.6	8.4
4	☐	25.000	28.574	394221.99	0.7084	P	1.8	14.3
5	☐	125.000	132.753	1003815.44	1.7897	P	1.8	6.2
6	☐	250.000	284.713	1841654.42	3.3670	A	4.5	13.9
7	☐	2500.000	2660.536	15628843.71	28.0268	A	0.7	6.4
8	☐	12500.00	12348.50	73075119.21	128.582	A	2.6	-1.2
9	☐	25000.00	23622.29	142774869.8	245.599	A	1.8	-5.5
10	☐	50000.00	50718.50	306459695.5	526.843	A	1.2	1.4
11	☐			301327.75	0.5381	P	9.3	

y = 0.0104 * x + 0.4118

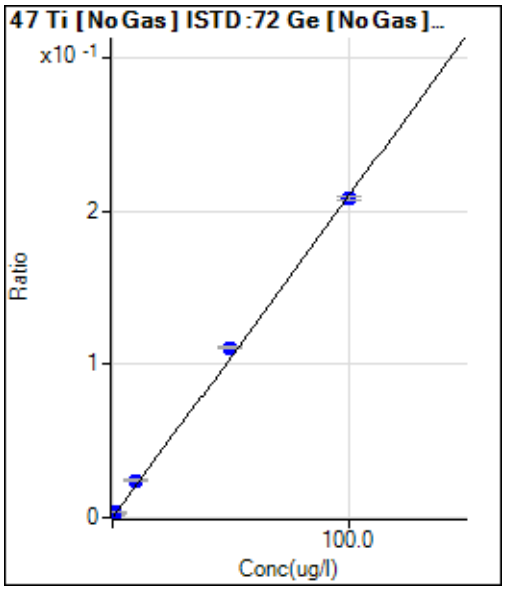
R = 0.9995

DL = 1.118 ug/l

BEC = 39.68 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	655.68	0.0010	P	7.4	
2	☐	0.025	0.013	674.03	0.0010	P	9.3	-47.2
3	☐	0.050	0.012	659.01	0.0010	P	10.0	-76.7
4	☐	0.100	0.044	724.08	0.0011	P	3.8	-55.6
5	☐	0.500	0.629	1496.69	0.0023	P	17.6	25.9
6	☐	1.000	1.101	2149.00	0.0033	P	5.3	10.1
7	☐	10.000	10.945	15797.66	0.0240	P	4.8	9.5
8	☐	50.000	52.289	74047.10	0.1109	P	1.5	4.6
9	☐	100.000	98.760	143402.24	0.2087	P	1.5	-1.2
10	☐			7995.22	0.0117	P	1.1	
11	☐			582.27	0.0009	P	5.7	

y = 0.0021 * x + 0.0010

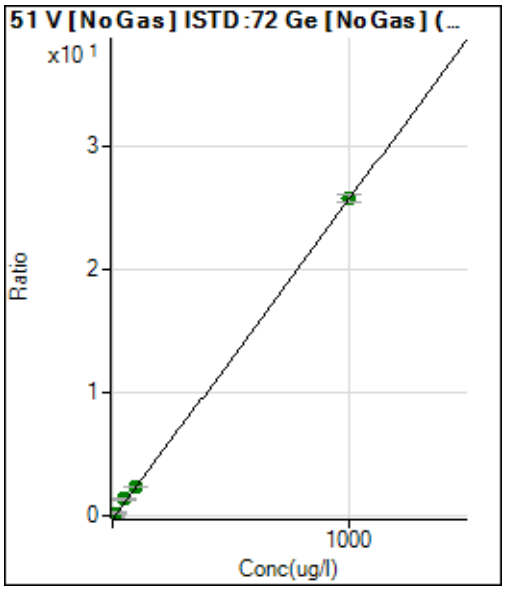
R = 0.9996

DL = 0.106 ug/l

BEC = 0.478 ug/l

Weight: 1/y

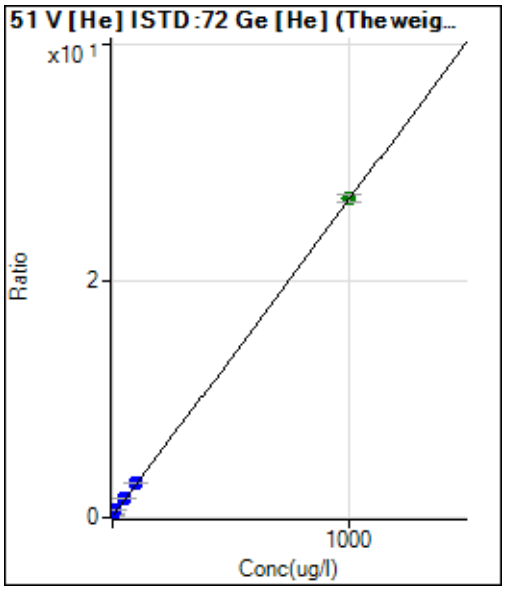
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-59286.33	-0.0898	A	-97.2	
2	☐	0.025	2.666	-14072.09	-0.0208	A	-445.	10562.5
3	☐	0.050	2.138	-21932.94	-0.0344	A	-104.	4176.2
4	☐	0.100	0.684	-47402.43	-0.0721	A	-81.1	584.1
5	☐	0.500	1.492	-31445.07	-0.0512	A	-298.	198.4
6	☐	1.000	2.197	-21884.92	-0.0329	A	-155.	119.7
7	☐	10.000	13.754	174005.68	0.2664	A	57.5	37.5
8	☐	50.000	57.282	929548.73	1.3937	A	10.7	14.6
9	☐	100.000	96.978	1664219.01	2.4218	A	1.9	-3.0
10	☐	1000.000	999.899	17705149.21	25.8066	A	2.7	0.0
11	☐			-21884.16	-0.0325	A	-87.8	

y = 0.0259 * x - 0.0898
R = 1.0000
DL = 10.11 ug/l
BEC = -3.468 ug/l

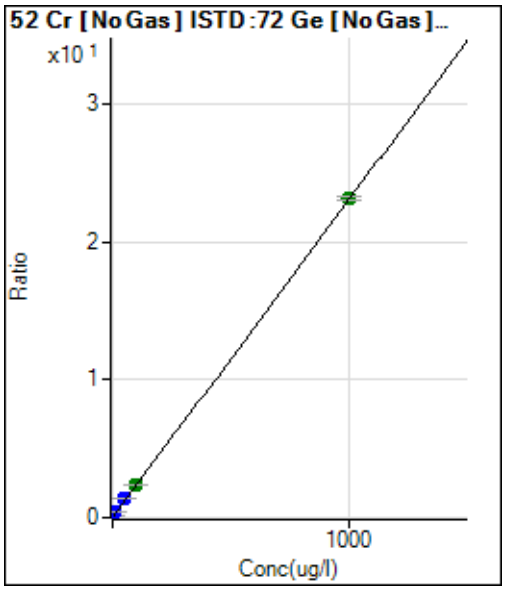
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30965.80	0.2468	P	4.2	
2	☐	0.025	0.372	32453.45	0.2568	P	0.5	1389.4
3	☐	0.050	0.503	32529.18	0.2603	P	1.5	906.3
4	☐	0.100	0.528	32377.78	0.2609	P	4.6	428.5
5	☐	0.500	1.100	34290.84	0.2763	P	0.3	120.0
6	☐	1.000	2.004	37937.58	0.3005	P	0.9	100.4
7	☐	10.000	12.485	73392.77	0.5812	P	2.6	24.8
8	☐	50.000	52.793	213010.75	1.6610	P	0.2	5.6
9	☐	100.000	99.272	387360.02	2.9060	P	1.3	-0.7
10	☐	1000.000	999.907	3670955.53	27.0311	A	2.5	0.0
11	☐			29169.96	0.2292	P	1.7	

y = 0.0268 * x + 0.2468
R = 1.0000
DL = 1.158 ug/l
BEC = 9.213 ug/l

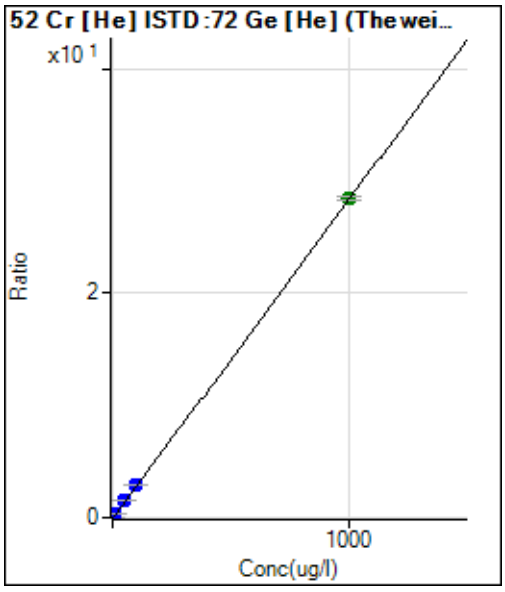
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	94580.85	0.1450	P	3.2	
2	☐	0.025	0.025	95076.48	0.1456	P	2.5	-0.9
3	☐	0.050	0.364	98117.31	0.1534	P	2.1	628.3
4	☐	0.100	0.221	98953.40	0.1501	P	1.7	121.0
5	☐	0.500	0.825	105506.06	0.1641	P	1.9	65.0
6	☐	1.000	1.602	117728.13	0.1820	P	3.5	60.2
7	☐	10.000	11.538	270572.80	0.4112	P	2.1	15.4
8	☐	50.000	53.974	927755.71	1.3903	P	2.9	7.9
9	☐	100.000	98.720	1664723.97	2.4226	A	1.8	-1.3
10	☐	1000.000	999.913	15923141.11	23.2143	A	0.8	0.0
11	☐			122267.13	0.1801	P	1.7	

y = 0.0231 * x + 0.1450
R = 1.0000
DL = 0.601 ug/l
BEC = 6.286 ug/l

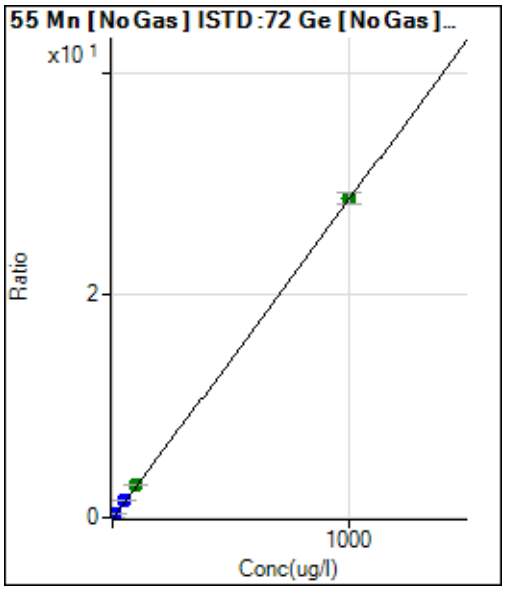
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4969.75	0.0396	P	1.6	
2	☐	0.025	-0.049	4828.59	0.0382	P	1.7	-294.8
3	☐	0.050	-0.013	4901.95	0.0392	P	3.3	-126.3
4	☐	0.100	0.079	5193.16	0.0418	P	2.0	-21.0
5	☐	0.500	0.539	6818.27	0.0549	P	3.0	7.9
6	☐	1.000	1.159	9159.55	0.0726	P	1.6	15.9
7	☐	10.000	11.305	45601.49	0.3611	P	0.9	13.0
8	☐	50.000	53.241	199230.66	1.5536	P	1.5	6.5
9	☐	100.000	100.643	386742.28	2.9016	P	2.0	0.6
10	☐	1000.000	999.760	3866820.74	28.4699	A	1.3	0.0
11	☐			5425.47	0.0426	P	3.0	

y = 0.0284 * x + 0.0396
R = 1.0000
DL = 0.06494 ug/l
BEC = 1.392 ug/l

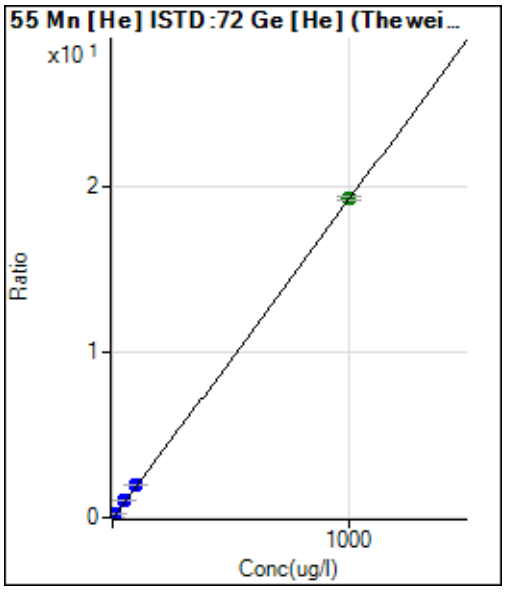
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9690.64	0.0149	P	6.6	
2	☐	0.025	0.046	10569.56	0.0162	P	5.8	84.8
3	☐	0.050	0.078	10939.07	0.0171	P	3.7	56.4
4	☐	0.100	0.114	11957.82	0.0181	P	2.1	14.1
5	☐	0.500	0.599	20596.97	0.0320	P	4.0	19.7
6	☐	1.000	1.172	31377.88	0.0485	P	1.3	17.2
7	☐	10.000	11.329	223602.40	0.3399	P	3.0	13.3
8	☐	50.000	53.764	1039267.31	1.5573	P	2.2	7.5
9	☐	100.000	99.435	1970705.46	2.8675	A	0.5	-0.6
10	☐	1000.000	999.855	19681919.17	28.6992	A	3.1	0.0
11	☐			19264.45	0.0284	P	0.9	

y = 0.0287 * x + 0.0149
R = 1.0000
DL = 0.1026 ug/l
BEC = 0.5182 ug/l

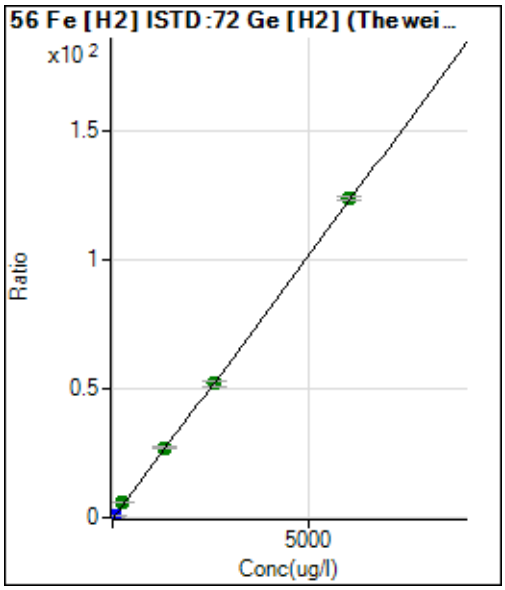
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	346.27	0.0028	P	4.7	
2	☐	0.025	0.032	426.25	0.0034	P	1.3	27.0
3	☐	0.050	0.056	479.58	0.0038	P	8.5	11.6
4	☐	0.100	0.099	579.90	0.0047	P	3.8	-0.9
5	☐	0.500	0.564	1692.09	0.0136	P	1.1	12.8
6	☐	1.000	1.160	3173.05	0.0251	P	3.1	16.0
7	☐	10.000	11.363	28019.99	0.2219	P	1.5	13.6
8	☐	50.000	53.543	132760.05	1.0352	P	1.0	7.1
9	☐	100.000	102.719	264381.91	1.9835	P	0.9	2.7
10	☐	1000.000	999.537	2618074.67	19.2767	A	1.6	0.0
11	☐			647.88	0.0051	P	2.6	

y = 0.0193 * x + 0.0028
R = 1.0000
DL = 0.02023 ug/l
BEC = 0.1431 ug/l

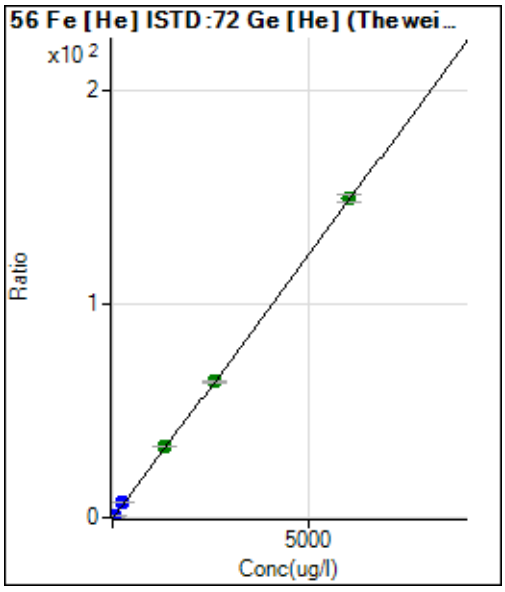
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20810.64	0.0374	P	0.4	
2	☐	0.650	0.942	31316.33	0.0567	P	0.4	44.9
3	☐	1.300	1.407	37353.18	0.0663	P	4.2	8.3
4	☐	2.600	2.952	54520.20	0.0980	P	2.7	13.5
5	☐	13.000	14.047	182578.38	0.3255	P	2.0	8.1
6	☐	26.000	30.257	359971.15	0.6580	P	3.6	16.4
7	☐	260.000	285.685	3287925.49	5.8970	A	2.3	9.9
8	☐	1300.000	1311.044	15301744.12	26.9277	A	2.2	0.8
9	☐	2600.000	2534.091	30228892.00	52.0130	A	3.9	-2.5
10	☐	6000.000	6025.034	71895992.63	123.614	A	1.7	0.4
11	☐			32309.47	0.0577	P	2.3	

y = 0.0205 * x + 0.0374
R = 0.9999
DL = 0.01941 ug/l
BEC = 1.824 ug/l

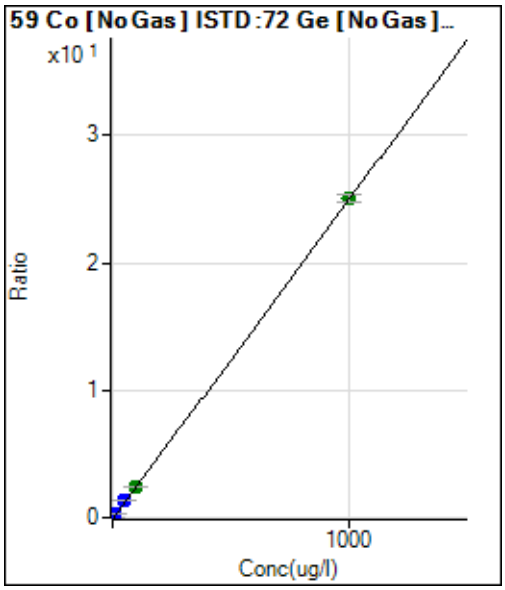
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	19206.84	0.1530	P	0.5	
2	☐	0.650	0.952	22334.38	0.1767	P	1.5	46.5
3	☐	1.300	1.688	24374.67	0.1950	P	3.0	29.8
4	☐	2.600	3.423	29565.95	0.2383	P	3.0	31.7
5	☐	13.000	14.686	64404.99	0.5189	P	0.8	13.0
6	☐	26.000	30.198	114311.00	0.9053	P	0.8	16.1
7	☐	260.000	288.712	927473.73	7.3456	P	3.1	11.0
8	☐	1300.000	1341.179	4304447.37	33.5653	A	0.8	3.2
9	☐	2600.000	2555.936	8507403.57	63.8280	A	1.7	-1.7
10	☐	6000.000	6008.906	20354555.92	149.850	A	2.2	0.1
11	☐			24790.77	0.1948	P	2.6	

y = 0.0249 * x + 0.1530
R = 0.9999
DL = 0.09709 ug/l
BEC = 6.142 ug/l

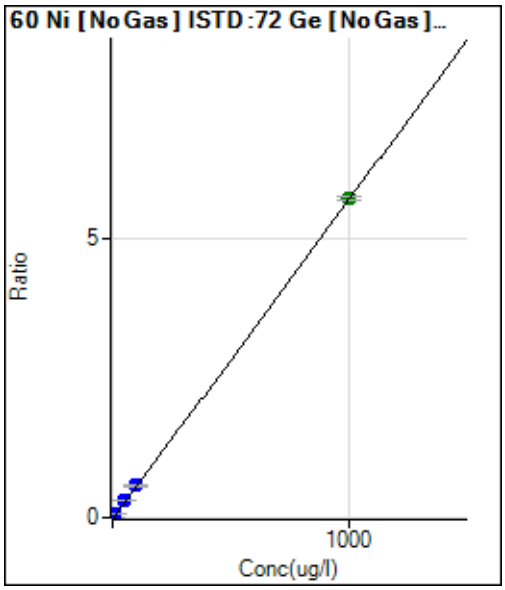
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	721.92	0.0011	P	7.1	
2	☐	0.025	0.026	1144.44	0.0018	P	6.0	3.2
3	☐	0.050	0.051	1527.05	0.0024	P	12.9	2.4
4	☐	0.100	0.103	2425.40	0.0037	P	5.1	2.6
5	☐	0.500	0.583	10116.80	0.0157	P	3.9	16.6
6	☐	1.000	1.192	20063.95	0.0310	P	1.5	19.2
7	☐	10.000	11.274	186749.13	0.2839	P	3.2	12.7
8	☐	50.000	53.391	894454.06	1.3402	P	3.4	6.8
9	☐	100.000	97.279	1677814.26	2.4410	A	2.5	-2.7
10	☐	1000.000	1000.090	17203619.04	25.0851	A	2.3	0.0
11	☐			2874.59	0.0042	P	2.0	

y = 0.0251 * x + 0.0011
R = 1.0000
DL = 0.009347 ug/l
BEC = 0.04411 ug/l

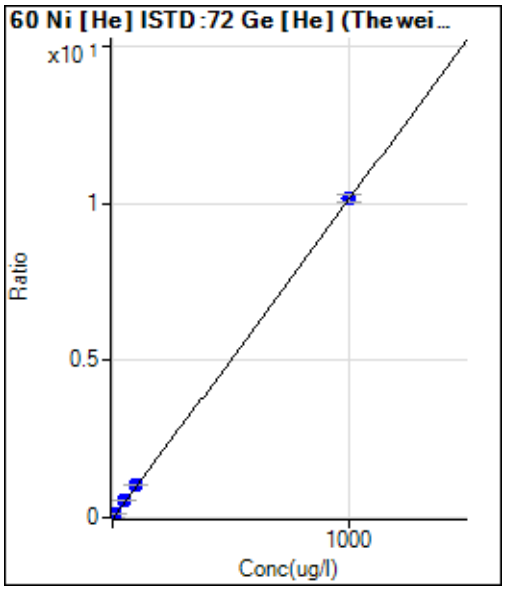
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	808.43	0.0012	P	7.6	
2	☐	0.025	0.076	1091.22	0.0017	P	4.5	202.7
3	☐	0.050	0.076	1071.25	0.0017	P	3.1	52.5
4	☐	0.100	0.100	1194.35	0.0018	P	2.7	0.2
5	☐	0.500	0.594	2974.43	0.0046	P	11.5	18.7
6	☐	1.000	1.175	5150.81	0.0080	P	8.0	17.5
7	☐	10.000	11.087	42513.90	0.0646	P	1.2	10.9
8	☐	50.000	52.523	201158.54	0.3014	P	2.0	5.0
9	☐	100.000	99.230	390640.16	0.5684	P	1.9	-0.8
10	☐	1000.000	999.940	3920666.11	5.7162	A	1.3	0.0
11	☐			1596.92	0.0024	P	8.1	

y = 0.0057 * x + 0.0012
R = 1.0000
DL = 0.04916 ug/l
BEC = 0.2168 ug/l

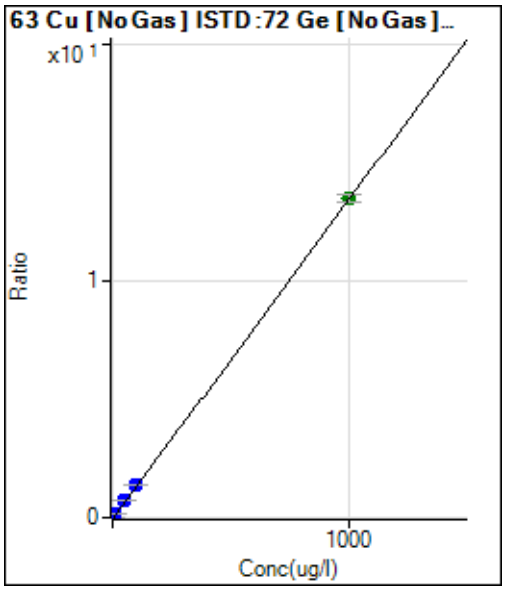
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	296.67	0.0024	P	15.0	
2	☐	0.025	0.099	426.68	0.0034	P	6.2	297.0
3	☐	0.050	0.071	385.56	0.0031	P	9.9	41.4
4	☐	0.100	0.124	450.01	0.0036	P	12.1	24.0
5	☐	0.500	0.571	1015.60	0.0082	P	7.6	14.2
6	☐	1.000	1.242	1895.69	0.0150	P	3.1	24.2
7	☐	10.000	11.885	15585.01	0.1234	P	0.8	18.8
8	☐	50.000	55.014	72145.88	0.5626	P	0.4	10.0
9	☐	100.000	103.854	141281.86	1.0599	P	1.6	3.9
10	☐	1000.000	999.345	1382334.65	10.1784	P	1.9	-0.1
11	☐			494.46	0.0039	P	2.1	

y = 0.0102 * x + 0.0024
R = 1.0000
DL = 0.1049 ug/l
BEC = 0.2325 ug/l

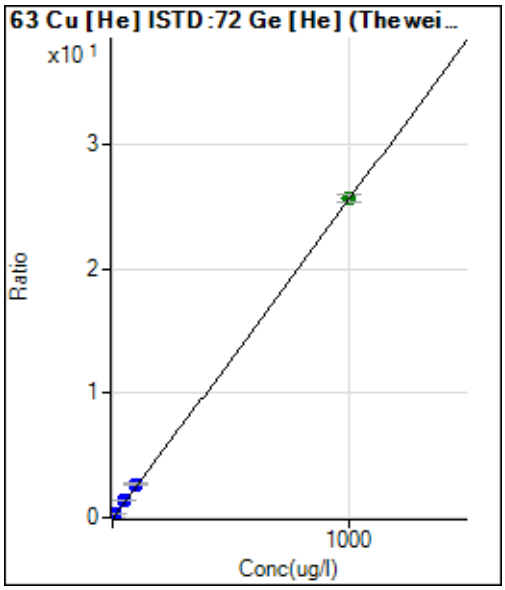
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1861.54	0.0029	P	4.2	
2	☐	0.025	0.059	2381.15	0.0036	P	2.6	134.6
3	☐	0.050	0.054	2291.10	0.0036	P	1.6	7.9
4	☐	0.100	0.105	2816.07	0.0043	P	0.9	5.1
5	☐	0.500	0.592	6973.14	0.0108	P	2.8	18.5
6	☐	1.000	1.220	12493.70	0.0193	P	1.3	22.0
7	☐	10.000	11.513	104069.80	0.1582	P	2.4	15.1
8	☐	50.000	54.545	492974.58	0.7387	P	2.3	9.1
9	☐	100.000	101.858	946355.75	1.3770	P	1.3	1.9
10	☐	1000.000	999.572	9250481.07	13.4878	A	2.0	0.0
11	☐			4221.64	0.0062	P	4.3	

y = 0.0135 * x + 0.0029
R = 1.0000
DL = 0.02676 ug/l
BEC = 0.2116 ug/l

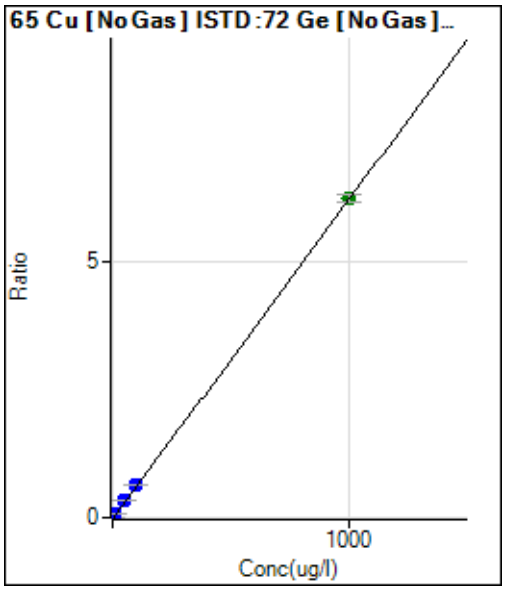
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	594.23	0.0047	P	1.8	
2	☐	0.025	0.067	815.86	0.0065	P	3.1	168.0
3	☐	0.050	0.054	763.54	0.0061	P	1.1	7.1
4	☐	0.100	0.121	972.51	0.0078	P	5.9	21.0
5	☐	0.500	0.616	2550.38	0.0205	P	2.7	23.2
6	☐	1.000	1.281	4750.83	0.0376	P	2.6	28.1
7	☐	10.000	12.115	39876.05	0.3158	P	2.2	21.1
8	☐	50.000	55.428	183114.15	1.4279	P	1.2	10.9
9	☐	100.000	104.811	359314.72	2.6958	P	1.5	4.8
10	☐	1000.000	999.226	3484734.35	25.6601	A	2.2	-0.1
11	☐			1248.14	0.0098	P	1.6	

y = 0.0257 * x + 0.0047
R = 1.0000
DL = 0.009805 ug/l
BEC = 0.1844 ug/l

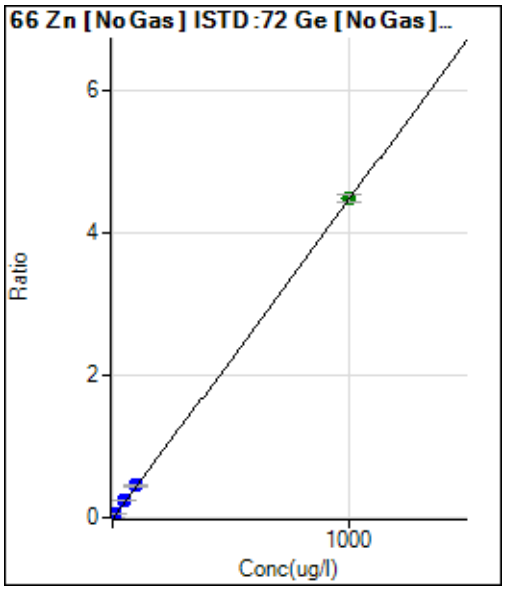
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	656.28	0.0010	P	4.1	
2	☐	0.025	0.081	989.10	0.0015	P	4.0	224.1
3	☐	0.050	0.079	960.42	0.0015	P	7.5	58.1
4	☐	0.100	0.116	1141.84	0.0017	P	1.1	15.9
5	☐	0.500	0.614	3119.60	0.0048	P	2.2	22.7
6	☐	1.000	1.223	5606.67	0.0087	P	1.9	22.3
7	☐	10.000	11.558	48294.97	0.0734	P	3.0	15.6
8	☐	50.000	54.371	227962.32	0.3416	P	2.9	8.7
9	☐	100.000	103.415	445894.32	0.6489	P	1.2	3.4
10	☐	1000.000	999.424	4294676.14	6.2619	A	2.0	-0.1
11	☐			1626.75	0.0024	P	2.4	

y = 0.0063 * x + 0.0010
R = 1.0000
DL = 0.01972 ug/l
BEC = 0.1607 ug/l

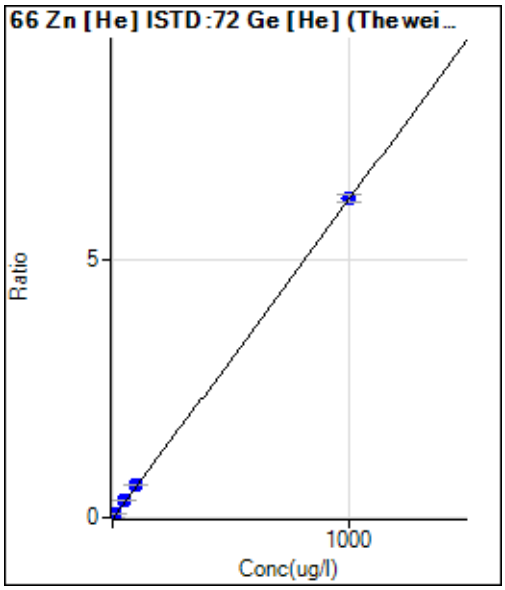
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	763.77	0.0012	P	3.5	
2	☐			3069.55	0.0047	P	4.5	
3	☐	0.050	0.118	1089.86	0.0017	P	13.9	136.6
4	☐	0.100	0.122	1132.88	0.0017	P	1.0	21.9
5	☐	0.500	0.804	3076.01	0.0048	P	3.0	60.8
6	☐	1.000	1.382	4769.29	0.0074	P	11.1	38.2
7	☐	10.000	12.263	37018.61	0.0563	P	4.0	22.6
8	☐	50.000	53.863	162290.84	0.2432	P	2.7	7.7
9	☐	100.000	100.047	309732.75	0.4507	P	3.5	0.0
10	☐	1000.000	999.779	3081804.58	4.4935	A	1.9	0.0
11	☐			1601.96	0.0024	P	10.7	

y = 0.0045 * x + 0.0012
R = 1.0000
DL = 0.02734 ug/l
BEC = 0.2606 ug/l

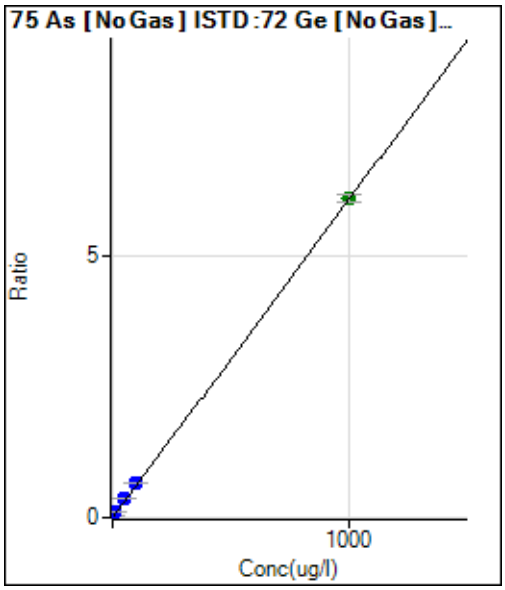
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0015	P	12.2	
2	☐			772.25	0.0061	P	3.5	
3	☐	0.050	0.133	288.89	0.0023	P	5.7	165.2
4	☐	0.100	0.152	301.12	0.0024	P	19.6	51.6
5	☐	0.500	0.805	805.58	0.0065	P	11.2	61.0
6	☐	1.000	1.430	1308.96	0.0104	P	5.4	43.0
7	☐	10.000	12.383	9898.95	0.0784	P	1.3	23.8
8	☐	50.000	54.096	43270.66	0.3374	P	1.9	8.2
9	☐	100.000	103.774	86097.34	0.6459	P	0.5	3.8
10	☐	1000.000	999.393	843020.07	6.2074	P	2.0	-0.1
11	☐			407.78	0.0032	P	12.1	

y = 0.0062 * x + 0.0015
R = 1.0000
DL = 0.08787 ug/l
BEC = 0.2397 ug/l

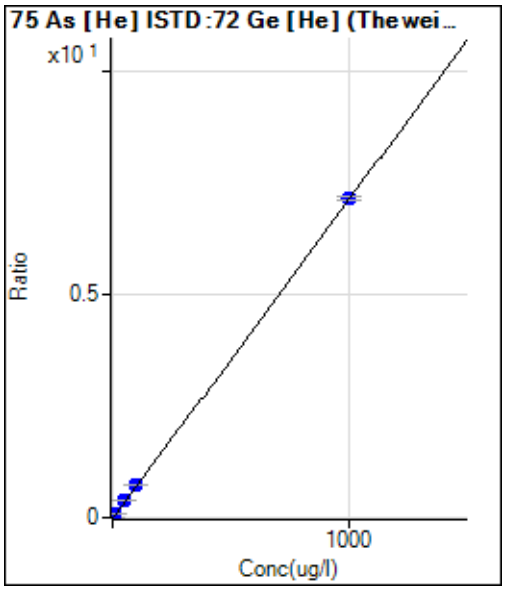
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	18715.51	0.0287	P	11.1	
2	☐	0.025	0.572	21030.29	0.0322	P	23.1	2187.2
3	☐	0.050	-0.235	17460.33	0.0273	P	29.0	-570.4
4	☐	0.100	0.023	19011.03	0.0289	P	17.3	-77.3
5	☐	0.500	0.994	22427.46	0.0348	P	24.3	98.8
6	☐	1.000	1.422	24201.96	0.0373	P	21.0	42.2
7	☐	10.000	12.752	69808.64	0.1060	P	7.8	27.5
8	☐	50.000	55.829	244870.97	0.3669	P	1.9	11.7
9	☐	100.000	104.593	455206.98	0.6623	P	1.2	4.6
10	☐	1000.000	999.221	4170928.02	6.0816	A	2.0	-0.1
11	☐			23867.53	0.0352	P	4.8	

y = 0.0061 * x + 0.0287
R = 1.0000
DL = 1.58 ug/l
BEC = 4.743 ug/l

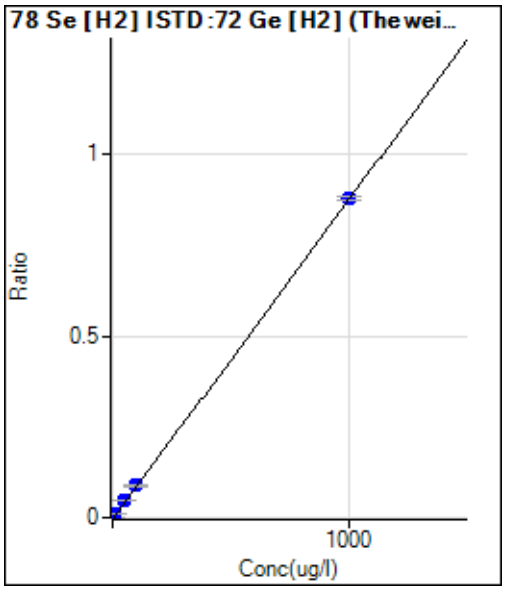
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1163.55	0.0093	P	3.1	
2	☐	0.025	0.049	1216.76	0.0096	P	1.1	98.0
3	☐	0.050	0.100	1248.50	0.0100	P	2.7	100.8
4	☐	0.100	0.149	1282.83	0.0103	P	1.2	49.0
5	☐	0.500	0.612	1694.67	0.0137	P	0.2	22.5
6	☐	1.000	1.225	2277.26	0.0180	P	0.9	22.5
7	☐	10.000	11.197	11286.26	0.0894	P	1.6	12.0
8	☐	50.000	52.921	49739.06	0.3878	P	0.3	5.8
9	☐	100.000	100.980	97524.45	0.7316	P	0.3	1.0
10	☐	1000.000	999.744	972559.48	7.1610	P	1.7	0.0
11	☐			1551.92	0.0122	P	2.0	

y = 0.0072 * x + 0.0093
R = 1.0000
DL = 0.1202 ug/l
BEC = 1.296 ug/l

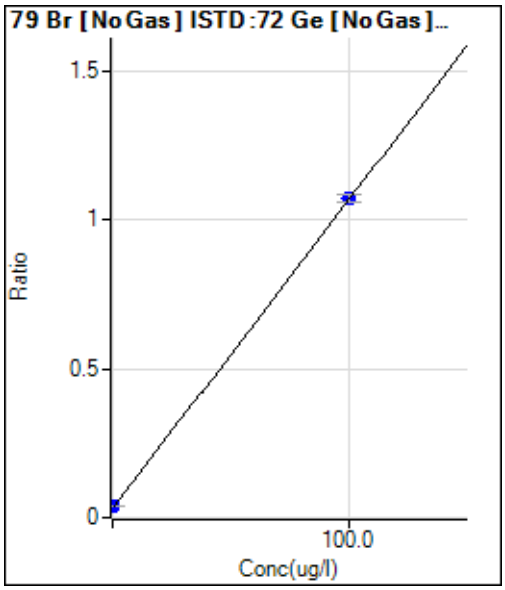
Weight: 1/y
Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t.	RSD	%RE
1	☐	0.000	0.000	45.22	0.0001	P	6.4	
2	☐	0.025	0.029	59.00	0.0001	P	11.4	16.0
3	☐	0.050	0.053	72.22	0.0001	P	9.8	6.4
4	☐	0.100	0.098	93.45	0.0002	P	10.1	-1.6
5	☐	0.500	0.516	300.11	0.0005	P	2.2	3.1
6	☐	1.000	1.142	594.35	0.0011	P	2.4	14.2
7	☐	10.000	10.946	5416.79	0.0097	P	0.8	9.5
8	☐	50.000	52.590	26344.67	0.0464	P	1.5	5.2
9	☐	100.000	100.104	51256.68	0.0882	P	2.1	0.1
10	☐	1000.000	999.850	511824.83	0.8800	P	1.3	0.0
11	☐			173.89	0.0003	P	1.9	

y = 8.8001E-004 * x + 8.1325E-005
R = 1.0000
DL = 0.0178 ug/l
BEC = 0.09241 ug/l

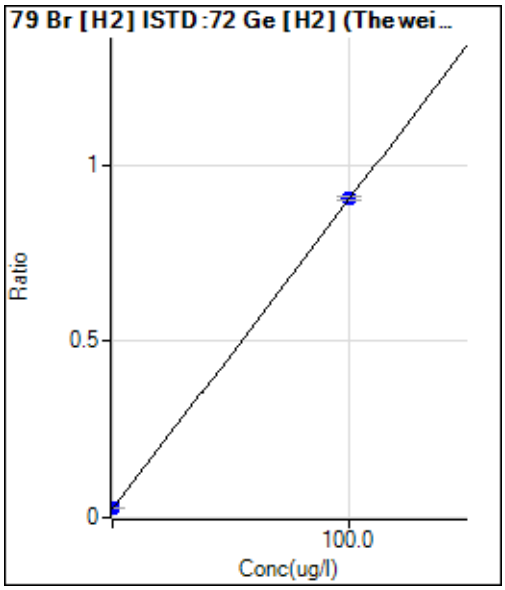
Weight: 1/y
Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t.	RSD	%RE
1	☐	0.000	0.000	23762.60	0.0364	P	4.3	
2	☐			61322.05	0.0939	P	8.5	
3	☐			60533.07	0.0947	P	7.6	
4	☐			65872.37	0.0999	P	4.7	
5	☐			63222.32	0.0983	P	1.3	
6	☐			66069.87	0.1022	P	7.0	
7	☐			65494.52	0.0995	P	3.8	
8	☐			23019.42	0.0345	P	8.4	
9	☐			67844.07	0.0988	P	4.6	
10	☐			67249.15	0.0981	P	2.8	
11	☐	100.000	100.000	728682.54	1.0736	P	2.3	0.0

y = 0.0104 * x + 0.0364
R = 1.0000
DL = 0.457 ug/l
BEC = 3.514 ug/l

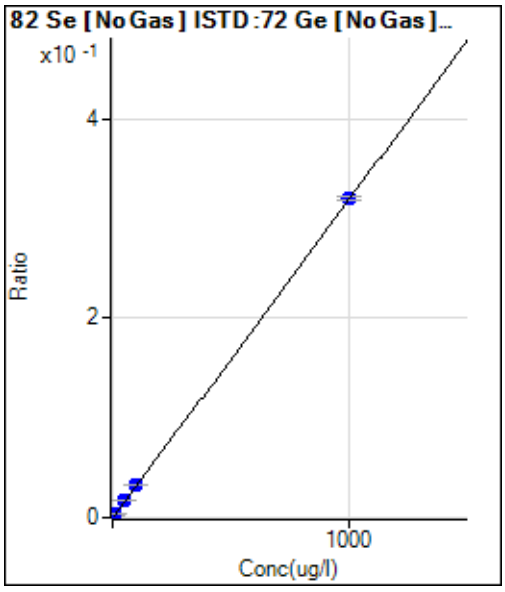
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16133.71	0.0290	P	3.4	
2	☐			38745.06	0.0702	P	2.2	
3	☐			40526.20	0.0719	P	1.1	
4	☐			45200.60	0.0812	P	0.8	
5	☐			43926.02	0.0783	P	1.4	
6	☐			44880.48	0.0821	P	4.9	
7	☐			44713.53	0.0802	P	1.2	
8	☐			15847.31	0.0279	P	3.8	
9	☐			48211.42	0.0830	P	5.4	
10	☐			60857.42	0.1046	P	0.9	
11	☐	100.000	100.000	506852.35	0.9056	P	1.4	0.0

y = 0.0088 * x + 0.0290
R = 1.0000
DL = 0.335 ug/l
BEC = 3.31 ug/l

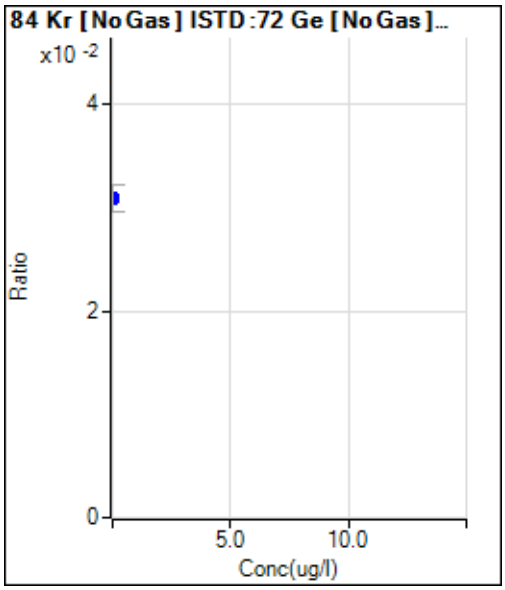
Weight: 1/y
Min Conc: <None>



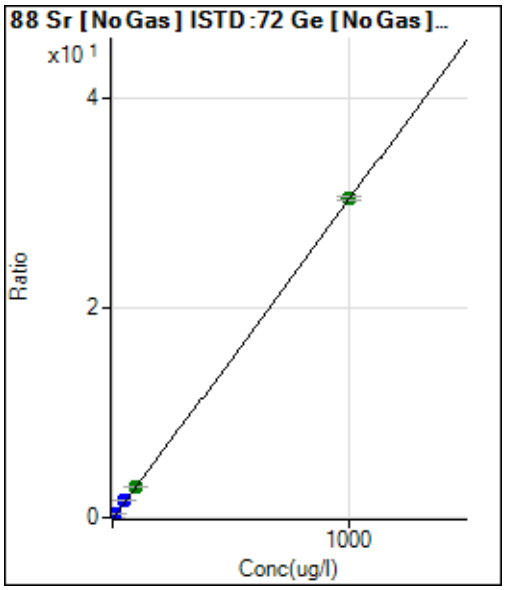
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	725.55	0.0011	P	7.6	
2	☐	0.025	-0.375	648.08	0.0010	P	2.5	-1598.1
3	☐	0.050	0.185	747.82	0.0012	P	19.0	270.6
4	☐	0.100	0.454	828.62	0.0013	P	2.1	354.4
5	☐	0.500	1.359	994.24	0.0015	P	4.1	171.8
6	☐	1.000	1.329	995.71	0.0015	P	12.8	32.9
7	☐	10.000	11.177	3080.83	0.0047	P	4.1	11.8
8	☐	50.000	52.702	11979.15	0.0179	P	0.8	5.4
9	☐	100.000	100.898	22913.46	0.0333	P	2.3	0.9
10	☐	1000.000	999.763	219801.32	0.3205	P	1.1	0.0
11	☐			1196.80	0.0018	P	18.0	

y = 3.1943E-004 * x + 0.0011
R = 1.0000
DL = 0.7952 ug/l
BEC = 3.481 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000		20140.86	0.0309	P	8.3	
2	☐			19344.76	0.0296	P	7.4	
3	☐			18924.94	0.0296	P	7.1	
4	☐			19491.29	0.0296	P	9.7	
5	☐			20580.53	0.0320	P	2.8	
6	☐			20457.20	0.0316	P	1.5	
7	☐			21020.27	0.0319	P	2.2	
8	☐			28238.24	0.0423	P	4.5	
9	☐			36413.66	0.0530	P	2.4	
10	☐			158408.03	0.2309	P	1.3	
11	☐			21769.88	0.0321	P	1.4	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	226.22	0.0003	P	36.7	
2	☐	0.025	0.031	841.70	0.0013	P	7.7	23.5
3	☐	0.050	0.057	1334.09	0.0021	P	12.2	14.1
4	☐	0.100	0.110	2432.06	0.0037	P	3.3	9.7
5	☐	0.500	0.569	11371.99	0.0177	P	1.5	13.8
6	☐	1.000	1.151	22926.33	0.0354	P	2.1	15.1
7	☐	10.000	11.279	226346.46	0.3441	P	3.8	12.8
8	☐	50.000	53.906	1096476.48	1.6430	P	2.4	7.8
9	☐	100.000	99.036	2074356.26	3.0183	A	0.5	-1.0
10	☐	1000.000	999.888	20898842.43	30.4699	A	1.2	0.0
11	☐			3775.87	0.0056	P	40.9	

y = 0.0305 * x + 3.4752E-004

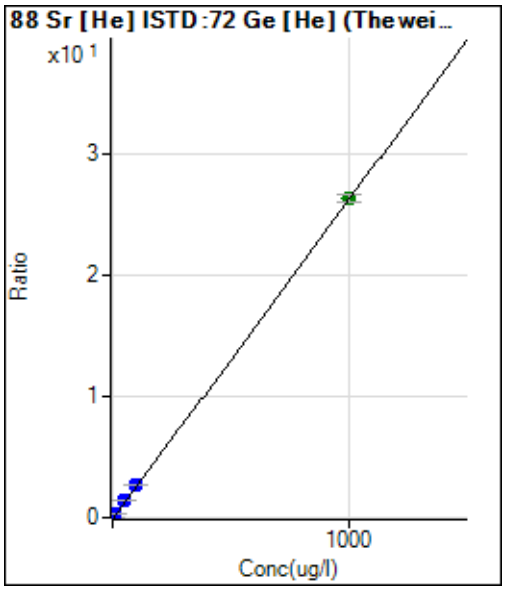
R = 1.0000

DL = 0.01254 ug/l

BEC = 0.0114 ug/l

Weight: 1/y

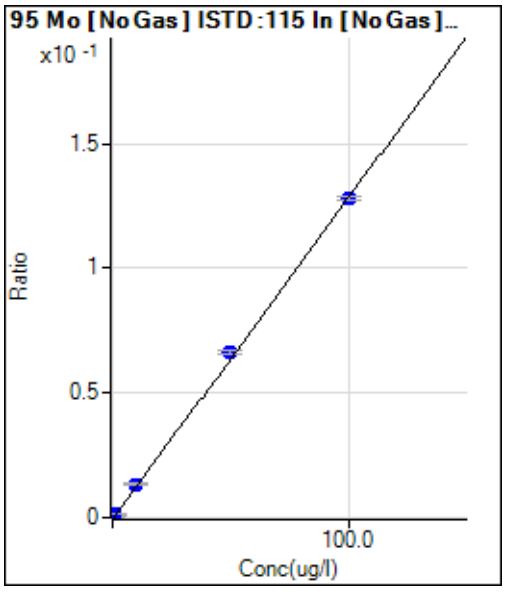
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	121.11	0.0010	P	14.1	
2	☐	0.025	0.020	188.89	0.0015	P	8.4	-19.8
3	☐	0.050	0.065	334.45	0.0027	P	17.8	29.9
4	☐	0.100	0.115	497.79	0.0040	P	6.2	15.3
5	☐	0.500	0.544	1902.36	0.0153	P	5.6	8.9
6	☐	1.000	1.155	3969.46	0.0314	P	1.4	15.5
7	☐	10.000	11.168	37326.29	0.2956	P	3.0	11.7
8	☐	50.000	53.315	180514.74	1.4076	P	0.6	6.6
9	☐	100.000	100.020	351891.45	2.6399	P	0.3	0.0
10	☐	1000.000	999.820	3581989.32	26.3797	A	2.9	0.0
11	☐			580.01	0.0046	P	9.2	

y = 0.0264 * x + 9.6626E-004
R = 1.0000
DL = 0.0155 ug/l
BEC = 0.03662 ug/l

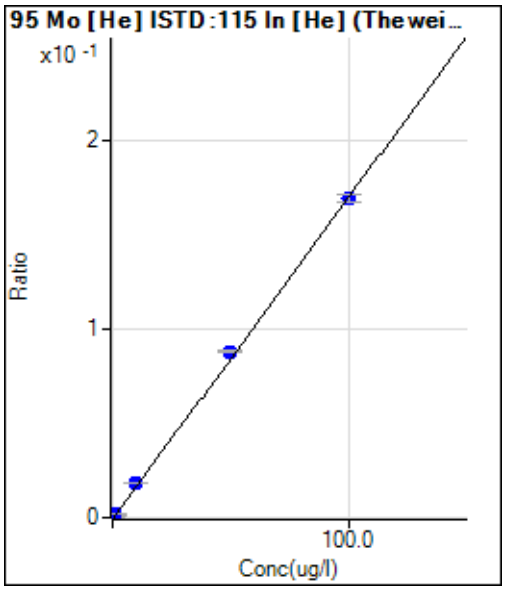
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	45.0	
2	☐	0.025	0.039	174.45	0.0001	P	2.1	54.2
3	☐	0.050	0.053	232.23	0.0001	P	5.2	5.8
4	☐	0.100	0.108	445.57	0.0001	P	6.2	8.2
5	☐	0.500	0.496	1953.48	0.0006	P	3.0	-0.8
6	☐	1.000	1.058	4256.22	0.0014	P	4.3	5.8
7	☐	10.000	10.363	40464.95	0.0134	P	2.1	3.6
8	☐	50.000	51.539	199215.56	0.0666	P	2.3	3.1
9	☐	100.000	99.194	382705.13	0.1282	P	1.7	-0.8
10	☐			334.45	0.0001	P	11.9	
11	☐			131.11	0.0000	P	22.5	

y = 0.0013 * x + 6.5247E-006
R = 0.9998
DL = 0.006814 ug/l
BEC = 0.00505 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8.89	0.0000	P	21.9	
2	☐	0.025	0.035	65.55	0.0001	P	17.0	38.8
3	☐	0.050	0.045	82.22	0.0001	P	17.2	-10.5
4	☐	0.100	0.132	222.22	0.0002	P	17.6	31.5
5	☐	0.500	0.506	823.36	0.0009	P	8.6	1.2
6	☐	1.000	1.107	1819.02	0.0019	P	2.3	10.7
7	☐	10.000	10.515	17224.88	0.0180	P	1.3	5.1
8	☐	50.000	51.641	84675.16	0.0883	P	1.3	3.3
9	☐	100.000	99.127	167837.74	0.1695	P	2.4	-0.9
10	☐			111.11	0.0001	P	13.7	
11	☐			25.56	0.0000	P	46.0	

y = 0.0017 * x + 9.2862E-006

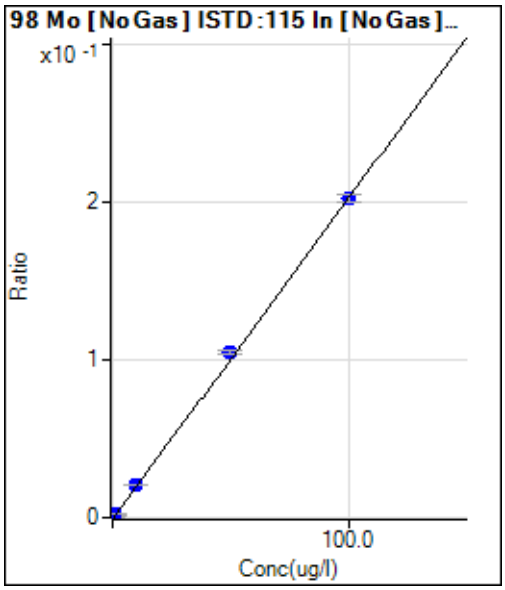
R = 0.9998

DL = 0.003563 ug/l

BEC = 0.005431 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	32.78	0.0000	P	62.3	
2	☐	0.025	0.032	232.16	0.0001	P	7.7	26.5
3	☐	0.050	0.050	348.00	0.0001	P	9.7	-0.1
4	☐	0.100	0.108	700.58	0.0002	P	3.8	7.8
5	☐	0.500	0.504	3125.23	0.0010	P	1.2	0.8
6	☐	1.000	1.010	6397.73	0.0021	P	4.5	1.0
7	☐	10.000	10.111	62141.30	0.0206	P	1.7	1.1
8	☐	50.000	51.260	311853.56	0.1042	P	2.4	2.5
9	☐	100.000	99.359	603249.32	0.2021	P	2.9	-0.6
10	☐			895.66	0.0003	P	6.8	
11	☐			122.64	0.0000	P	5.3	

y = 0.0020 * x + 1.0722E-005

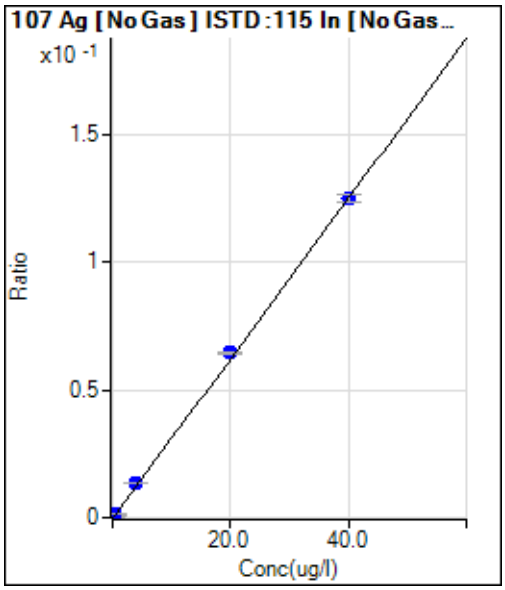
R = 0.9999

DL = 0.00986 ug/l

BEC = 0.005273 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	658.95	0.0002	P	1.9	
2	☐	0.010	0.015	812.35	0.0003	P	6.3	53.7
3	☐	0.020	0.020	857.71	0.0003	P	1.7	-1.3
4	☐	0.040	0.052	1147.84	0.0004	P	4.2	29.3
5	☐	0.200	0.214	2676.00	0.0009	P	2.5	7.2
6	☐	0.400	0.426	4805.42	0.0016	P	1.1	6.5
7	☐	4.000	4.258	41011.44	0.0136	P	1.9	6.5
8	☐	20.000	20.467	192789.69	0.0644	P	1.9	2.3
9	☐	40.000	39.740	373052.10	0.1249	P	1.9	-0.6
10	☐			3403787.27	1.1300	A	1.9	
11	☐			2168.37	0.0007	P	2.1	

y = 0.0031 * x + 2.1428E-004

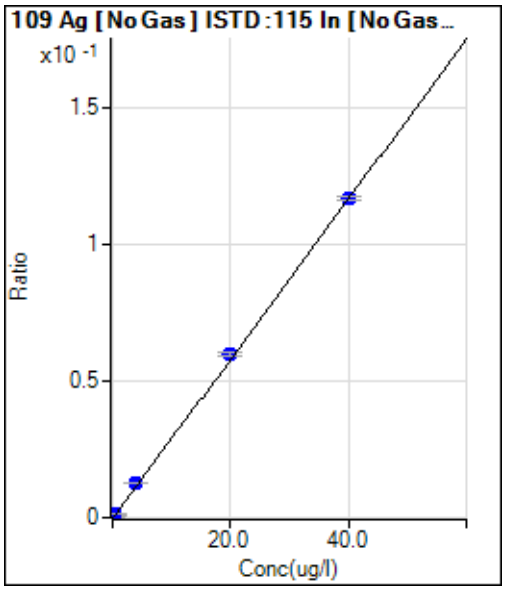
R = 0.9999

DL = 0.003895 ug/l

BEC = 0.06828 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	588.92	0.0002	P	2.0	
2	☐	0.010	0.019	760.33	0.0002	P	4.6	85.2
3	☐	0.020	0.028	846.36	0.0003	P	4.2	38.9
4	☐	0.040	0.048	1007.78	0.0003	P	4.8	19.0
5	☐	0.200	0.222	2537.92	0.0008	P	2.7	10.9
6	☐	0.400	0.431	4505.19	0.0015	P	1.8	7.7
7	☐	4.000	4.184	37608.80	0.0125	P	0.8	4.6
8	☐	20.000	20.301	178513.05	0.0597	P	2.7	1.5
9	☐	40.000	39.831	349155.54	0.1169	P	1.2	-0.4
10	☐			3220014.33	1.0694	A	2.1	
11	☐			2014.29	0.0006	P	2.6	

y = 0.0029 * x + 1.9144E-004

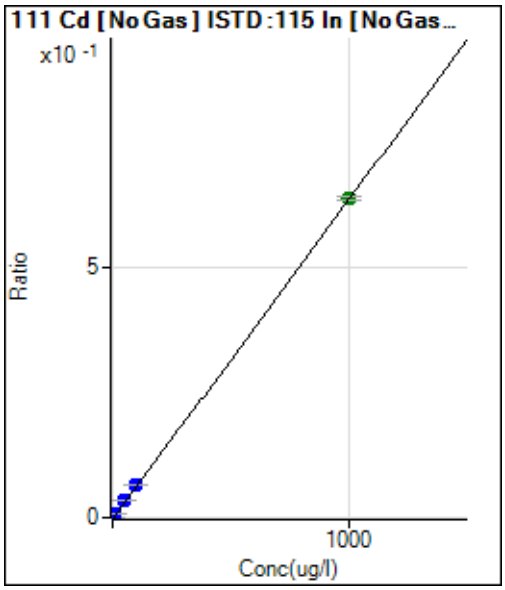
R = 1.0000

DL = 0.003988 ug/l

BEC = 0.06533 ug/l

Weight: 1/y

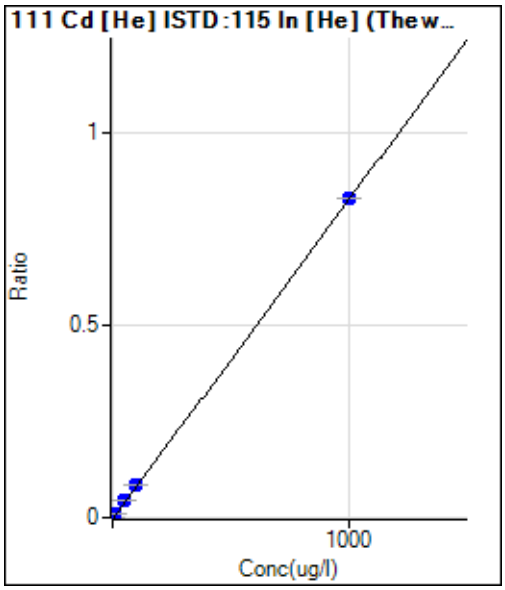
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	10.47	0.0000	P	115.	
2	☐	0.025	0.015	40.65	0.0000	P	145.	-39.7
3	☐	0.050	0.045	99.51	0.0000	P	46.3	-10.0
4	☐	0.100	0.101	205.76	0.0001	P	0.9	0.5
5	☐	0.500	0.530	1030.14	0.0003	P	6.4	6.0
6	☐	1.000	1.059	2102.98	0.0007	P	1.5	5.9
7	☐	10.000	10.783	20782.32	0.0069	P	2.1	7.8
8	☐	50.000	52.395	99955.11	0.0334	P	2.4	4.8
9	☐	100.000	102.476	195143.80	0.0653	P	2.0	2.5
10	☐	1000.000	999.625	1919560.10	0.6374	A	1.2	0.0
11	☐			312.33	0.0001	P	18.5	

y = 6.3767E-004 * x + 3.4204E-006
R = 1.0000
DL = 0.0186 ug/l
BEC = 0.005364 ug/l

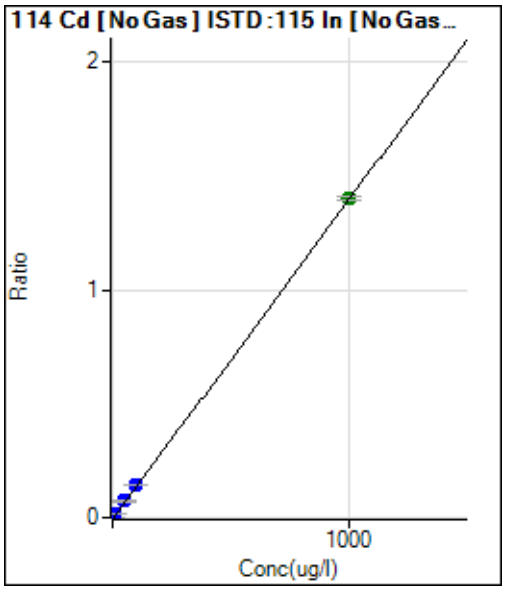
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8.56	0.0000	P	9.7	
2	☐	0.025	0.031	33.33	0.0000	P	10.7	24.8
3	☐	0.050	0.055	52.00	0.0001	P	1.4	9.0
4	☐	0.100	0.109	94.44	0.0001	P	3.8	9.2
5	☐	0.500	0.554	441.89	0.0005	P	3.4	10.8
6	☐	1.000	1.136	911.59	0.0010	P	1.2	13.6
7	☐	10.000	10.941	8714.67	0.0091	P	0.5	9.4
8	☐	50.000	53.209	42401.81	0.0442	P	0.3	6.4
9	☐	100.000	99.941	82240.53	0.0831	P	0.6	-0.1
10	☐	1000.000	999.836	827287.30	0.8308	P	0.2	0.0
11	☐			123.45	0.0001	P	2.8	

y = 8.3094E-004 * x + 8.9340E-006
R = 1.0000
DL = 0.003137 ug/l
BEC = 0.01075 ug/l

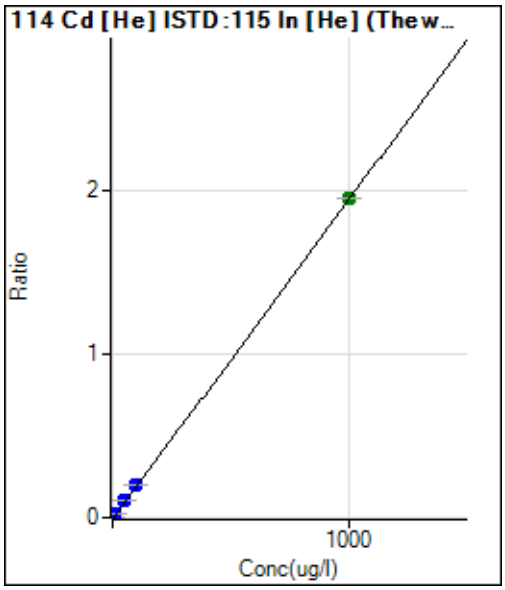
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-40.78	0.0000	P	-67.4	
2	☐	0.025	0.014	18.61	0.0000	P	321.	-45.4
3	☐	0.050	0.045	154.60	0.0000	P	23.2	-10.0
4	☐	0.100	0.105	407.74	0.0001	P	3.7	5.0
5	☐	0.500	0.535	2220.13	0.0007	P	2.4	6.9
6	☐	1.000	1.049	4513.20	0.0015	P	2.6	4.9
7	☐	10.000	10.571	44711.34	0.0148	P	1.0	5.7
8	☐	50.000	51.541	216030.96	0.0722	P	1.8	3.1
9	☐	100.000	101.160	423273.32	0.1418	P	2.2	1.2
10	☐	1000.000	999.801	4219437.31	1.4011	A	0.7	0.0
11	☐			584.06	0.0002	P	12.2	

y = 0.0014 * x - 1.3274E-005
R = 1.0000
DL = 0.01916 ug/l
BEC = -0.009472 ug/l

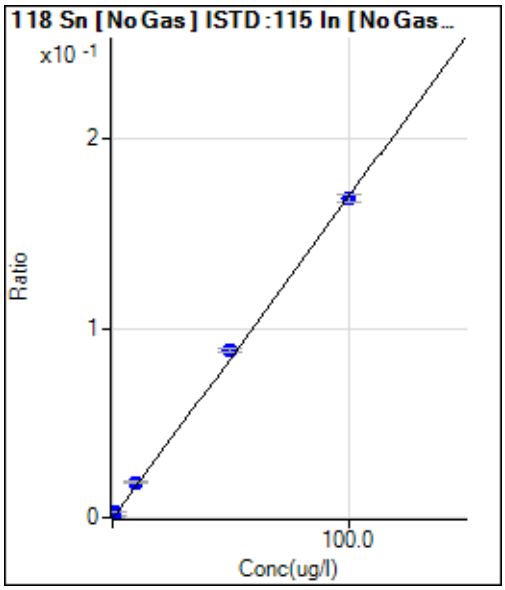
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14.38	0.0000	P	17.5	
2	☐	0.025	0.031	71.73	0.0001	P	3.1	23.0
3	☐	0.050	0.055	116.72	0.0001	P	7.7	9.3
4	☐	0.100	0.117	230.62	0.0002	P	5.8	17.1
5	☐	0.500	0.548	1021.79	0.0011	P	1.8	9.6
6	☐	1.000	1.127	2117.81	0.0022	P	2.4	12.7
7	☐	10.000	11.146	20852.52	0.0218	P	1.1	11.5
8	☐	50.000	53.308	99802.06	0.1041	P	0.4	6.6
9	☐	100.000	101.222	195685.36	0.1976	P	0.8	1.2
10	☐	1000.000	999.701	1943350.44	1.9517	A	0.3	0.0
11	☐			280.86	0.0003	P	2.4	

y = 0.0020 * x + 1.5015E-005
R = 1.0000
DL = 0.004029 ug/l
BEC = 0.007691 ug/l

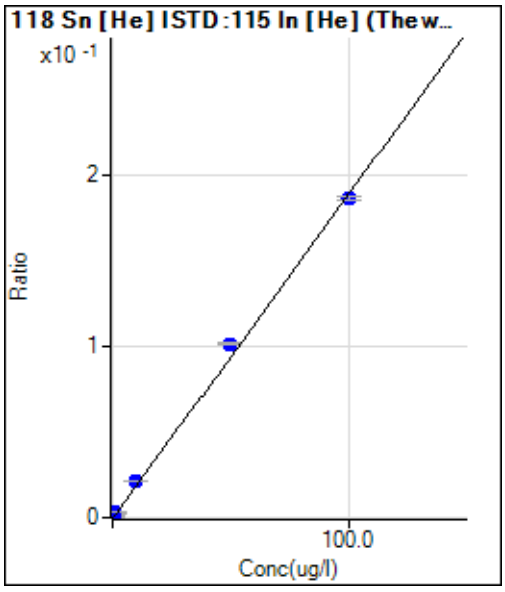
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1011.38	0.0003	P	22.8	
2	☐	0.025	0.121	1653.50	0.0005	P	11.9	383.5
3	☐	0.050	0.248	2325.59	0.0008	P	9.4	395.3
4	☐	0.100	0.328	2701.58	0.0009	P	12.5	228.0
5	☐	0.500	0.670	4431.94	0.0015	P	5.2	33.9
6	☐	1.000	1.363	8209.48	0.0026	P	4.4	36.3
7	☐	10.000	10.851	56805.38	0.0188	P	4.1	8.5
8	☐	50.000	51.968	265722.53	0.0888	P	2.6	3.9
9	☐	100.000	98.926	504018.22	0.1688	P	2.1	-1.1
10	☐			2425.40	0.0008	P	5.6	
11	☐			30819.37	0.0097	P	4.7	

y = 0.0017 * x + 3.2845E-004
R = 0.9997
DL = 0.132 ug/l
BEC = 0.1929 ug/l

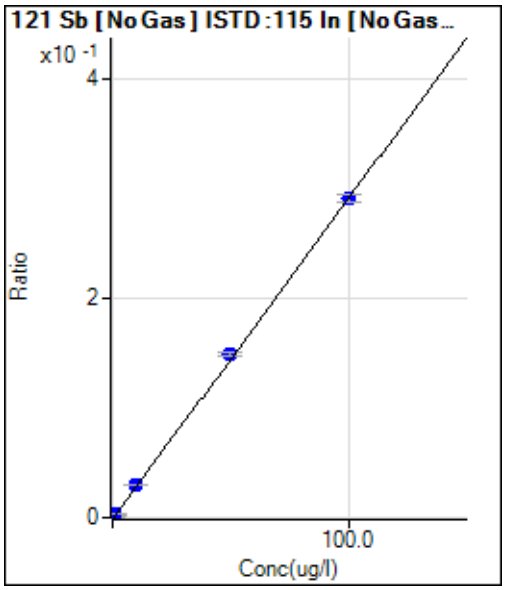
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	352.23	0.0004	P	14.4	
2	☐	0.025	0.164	647.79	0.0007	P	1.7	554.6
3	☐	0.050	0.265	833.36	0.0009	P	8.6	430.1
4	☐	0.100	0.317	915.59	0.0010	P	4.7	216.6
5	☐	0.500	0.741	1667.89	0.0018	P	6.0	48.3
6	☐	1.000	1.375	2840.31	0.0030	P	1.4	37.5
7	☐	10.000	11.191	20638.58	0.0216	P	0.5	11.9
8	☐	50.000	53.321	97127.46	0.1013	P	0.5	6.6
9	☐	100.000	98.215	184449.08	0.1863	P	1.2	-1.8
10	☐			843.36	0.0008	P	4.4	
11	☐			11186.71	0.0115	P	1.0	

y = 0.0019 * x + 3.6768E-004
R = 0.9993
DL = 0.0842 ug/l
BEC = 0.1942 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	108.01	0.0000	P	8.3	
2	☐	0.025	0.044	511.39	0.0002	P	1.3	77.9
3	☐	0.050	0.051	573.74	0.0002	P	6.5	2.5
4	☐	0.100	0.103	1025.81	0.0003	P	3.1	3.2
5	☐	0.500	0.503	4544.86	0.0015	P	3.8	0.6
6	☐	1.000	1.038	9509.17	0.0031	P	2.9	3.8
7	☐	10.000	10.299	91070.11	0.0301	P	1.4	3.0
8	☐	50.000	51.034	446439.80	0.1492	P	2.5	2.1
9	☐	100.000	99.453	868522.21	0.2908	P	2.3	-0.5
10	☐			1823.30	0.0006	P	6.6	
11	☐			570.40	0.0002	P	9.7	

y = 0.0029 * x + 3.5097E-005

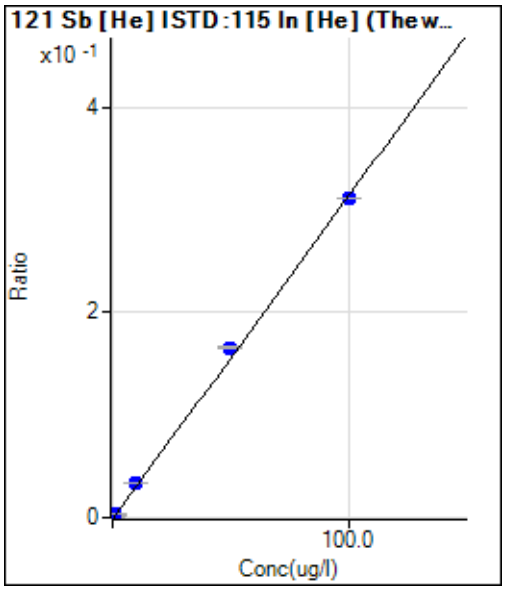
R = 0.9999

DL = 0.002974 ug/l

BEC = 0.012 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	59.68	0.0001	P	8.5	
2	☐	0.025	0.041	183.69	0.0002	P	7.5	64.5
3	☐	0.050	0.047	202.69	0.0002	P	4.8	-5.6
4	☐	0.100	0.108	381.38	0.0004	P	3.2	7.9
5	☐	0.500	0.508	1568.92	0.0017	P	0.8	1.6
6	☐	1.000	1.070	3288.05	0.0034	P	3.2	7.0
7	☐	10.000	10.545	31930.93	0.0333	P	1.2	5.4
8	☐	50.000	52.421	158704.95	0.1655	P	0.9	4.8
9	☐	100.000	98.734	308631.40	0.3117	P	0.4	-1.3
10	☐			608.74	0.0006	P	4.0	
11	☐			198.02	0.0002	P	10.7	

y = 0.0032 * x + 6.2311E-005

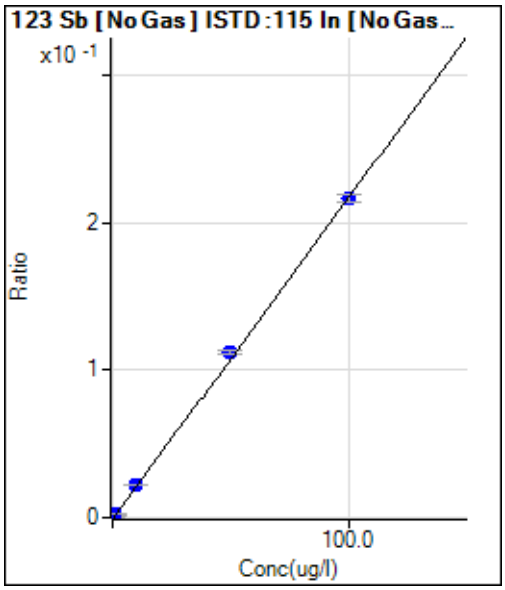
R = 0.9996

DL = 0.005008 ug/l

BEC = 0.01974 ug/l

Weight: 1/y

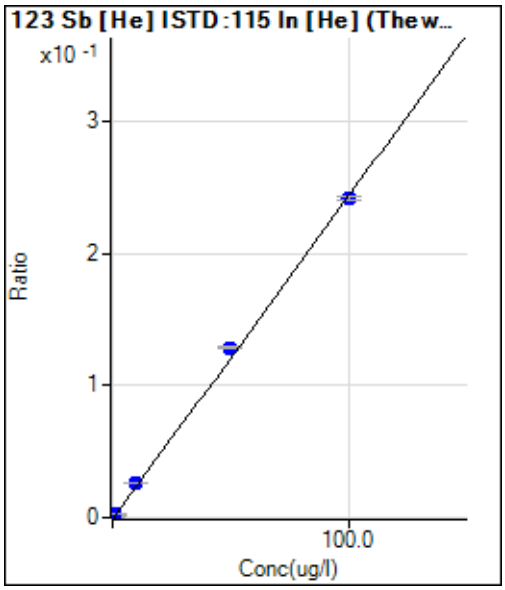
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	81.68	0.0000	P	3.7	
2	☐	0.025	0.044	378.71	0.0001	P	1.8	75.6
3	☐	0.050	0.052	435.38	0.0001	P	3.8	4.3
4	☐	0.100	0.103	764.43	0.0003	P	2.7	2.9
5	☐	0.500	0.502	3381.08	0.0011	P	1.2	0.3
6	☐	1.000	1.039	7103.51	0.0023	P	2.1	3.9
7	☐	10.000	10.352	68305.48	0.0226	P	1.5	3.5
8	☐	50.000	51.446	335835.43	0.1123	P	2.0	2.9
9	☐	100.000	99.241	646649.98	0.2165	P	2.7	-0.8
10	☐			1515.57	0.0005	P	8.4	
11	☐			426.05	0.0001	P	10.0	

y = 0.0022 * x + 2.6561E-005
R = 0.9999
DL = 0.001363 ug/l
BEC = 0.01217 ug/l

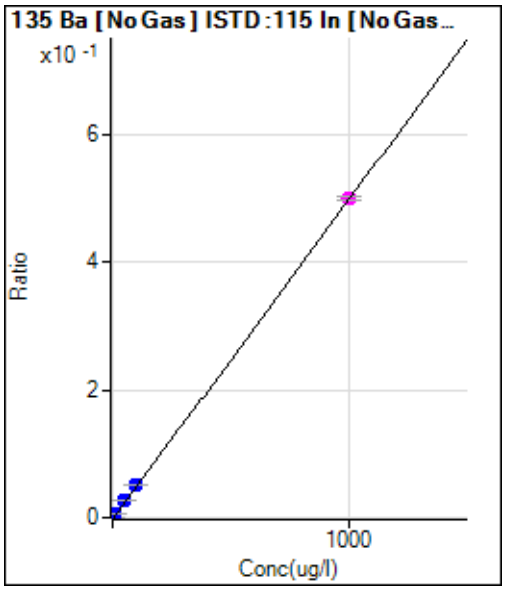
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	41.00	0.0000	P	25.6	
2	☐	0.025	0.038	129.01	0.0001	P	2.0	50.4
3	☐	0.050	0.056	171.69	0.0002	P	10.0	11.4
4	☐	0.100	0.110	295.36	0.0003	P	3.9	9.9
5	☐	0.500	0.514	1226.51	0.0013	P	1.4	2.9
6	☐	1.000	1.076	2560.83	0.0027	P	3.7	7.6
7	☐	10.000	10.619	24933.17	0.0260	P	1.2	6.2
8	☐	50.000	52.460	123175.12	0.1285	P	0.7	4.9
9	☐	100.000	98.707	239300.18	0.2417	P	1.0	-1.3
10	☐			485.06	0.0005	P	2.1	
11	☐			157.02	0.0002	P	8.6	

y = 0.0024 * x + 4.2824E-005
R = 0.9996
DL = 0.01345 ug/l
BEC = 0.01749 ug/l

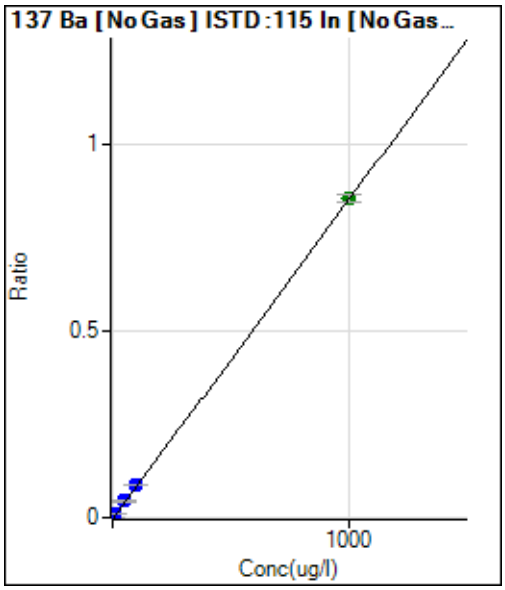
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.63	0.0000	P	35.3	
2	☐	0.025	0.039	76.51	0.0000	P	47.2	55.1
3	☐	0.050	0.062	113.11	0.0000	P	4.6	24.0
4	☐	0.100	0.098	166.34	0.0001	P	39.8	-1.8
5	☐	0.500	0.565	868.31	0.0003	P	3.9	13.0
6	☐	1.000	1.015	1590.28	0.0005	P	4.9	1.5
7	☐	10.000	10.420	15761.10	0.0052	P	2.4	4.2
8	☐	50.000	52.522	78591.97	0.0263	P	3.4	5.0
9	☐	100.000	102.837	153582.04	0.0514	P	2.8	2.8
10	☐	1000.000	999.586	1505792.07	0.4999	M	1.7	0.0
11	☐			242.86	0.0001	P	10.1	

y = 5.0015E-004 * x + 5.4202E-006
R = 1.0000
DL = 0.01149 ug/l
BEC = 0.01084 ug/l

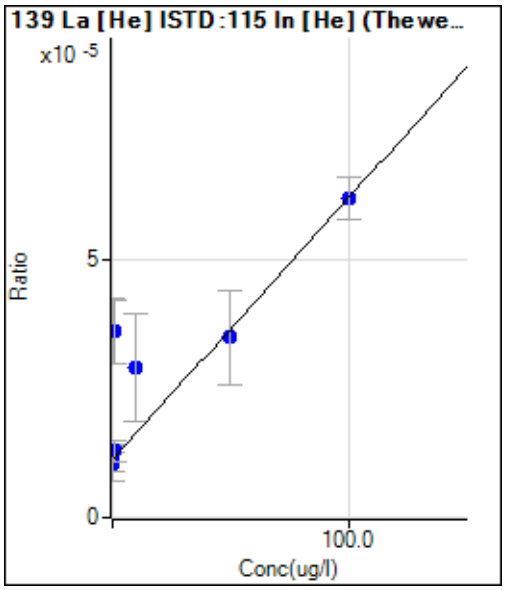
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	49.90	0.0000	P	59.5	
2	☐	0.025	0.020	103.13	0.0000	P	16.5	-19.6
3	☐	0.050	0.041	159.68	0.0001	P	21.1	-17.2
4	☐	0.100	0.099	306.06	0.0001	P	23.3	-1.3
5	☐	0.500	0.517	1384.00	0.0005	P	5.5	3.4
6	☐	1.000	1.075	2901.23	0.0009	P	7.8	7.5
7	☐	10.000	10.767	27896.09	0.0092	P	2.8	7.7
8	☐	50.000	52.230	133800.92	0.0447	P	4.4	4.5
9	☐	100.000	102.732	262681.94	0.0880	P	2.0	2.7
10	☐	1000.000	999.608	2577647.69	0.8559	A	1.8	0.0
11	☐			352.64	0.0001	P	14.3	

y = 8.5618E-004 * x + 1.6154E-005
R = 1.0000
DL = 0.03367 ug/l
BEC = 0.01887 ug/l

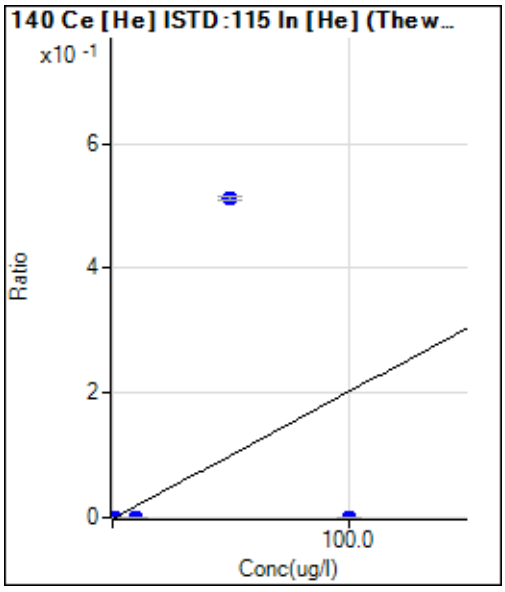
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	11.11	0.0000	P	45.5	
2	☐	0.025	48.363	34.44	0.0000	P	34.2	193352.
3	☐	0.050	-2.392	10.00	0.0000	P	66.1	-4883.5
4	☐	0.100	0.243	11.11	0.0000	P	16.2	143.1
5	☐	0.500	2.750	12.22	0.0000	P	31.8	450.0
6	☐	1.000	48.327	34.44	0.0000	P	34.2	4732.7
7	☐	10.000	34.187	27.78	0.0000	P	72.4	241.9
8	☐	50.000	45.875	33.33	0.0000	P	53.2	-8.3
9	☐	100.000	99.148	61.11	0.0001	P	12.8	-0.9
10	☐			132.22	0.0001	P	23.5	
11	☐			13.33	0.0000	P	0.8	

y = 5.0564E-007 * x + 1.1595E-005
R = 0.8040
DL = 31.32 ug/l
BEC = 22.93 ug/l

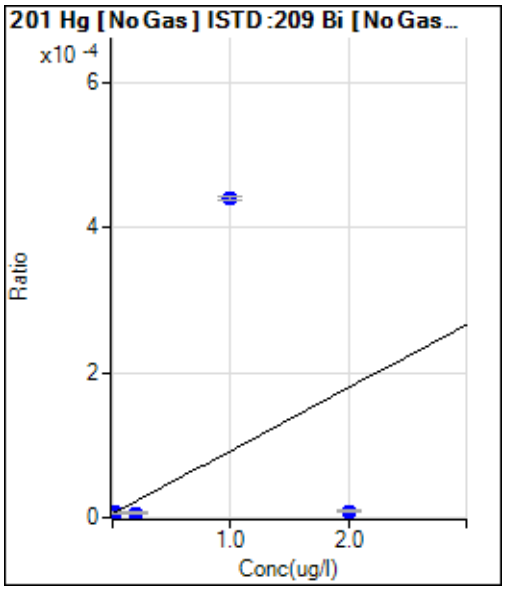
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7.78	0.0000	P	65.6	
2	☐	0.025	0.018	43.33	0.0000	P	19.7	-27.0
3	☐	0.050	-0.001	6.66	0.0000	P	85.9	-101.2
4	☐	0.100	0.002	11.11	0.0000	P	75.3	-98.3
5	☐	0.500	0.013	33.33	0.0000	P	20.4	-97.3
6	☐	1.000	0.019	44.44	0.0000	P	19.3	-98.1
7	☐	10.000	0.019	45.56	0.0000	P	26.4	-99.8
8	☐	50.000	251.970	491550.64	0.5127	P	1.7	403.9
9	☐	100.000	0.025	58.89	0.0001	P	23.2	-100.0
10	☐			246.67	0.0002	P	8.9	
11	☐			21.11	0.0000	P	17.6	

y = 0.0020 * x + 8.1269E-006
R = 0.3451
DL = 0.007859 ug/l
BEC = 0.003994 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9.67	0.0000	P	64.1	
2	☐			9.67	0.0000	P	6.6	
3	☐	0.001	0.000	9.67	0.0000	P	23.7	-75.0
4	☐	0.002	-0.007	8.67	0.0000	P	40.6	-437.1
5	☐	0.010	0.002	9.67	0.0000	P	50.3	-82.7
6	☐	0.020	-0.009	8.33	0.0000	P	56.8	-144.9
7	☐	0.200	-0.011	8.00	0.0000	P	38.9	-105.6
8	☐	1.000	4.990	611.89	0.0004	P	1.7	399.0
9	☐	2.000	0.027	13.00	0.0000	P	19.4	-98.7
10	☐			8.33	0.0000	P	36.7	
11	☐			9.33	0.0000	P	43.1	

y = 8.6940E-005 * x + 6.7252E-006

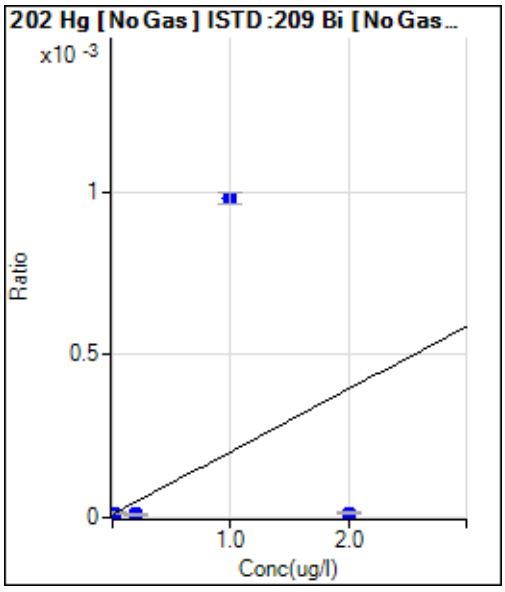
R = 0.3352

DL = 0.1488 ug/l

BEC = 0.07735 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	19.33	0.0000	P	32.7	
2	☐			13.33	0.0000	P	11.5	
3	☐	0.001	-0.008	17.33	0.0000	P	20.1	-856.7
4	☐	0.002	-0.012	16.00	0.0000	P	28.6	-691.6
5	☐	0.010	-0.011	16.00	0.0000	P	7.4	-213.2
6	☐	0.020	-0.004	18.00	0.0000	P	50.0	-120.7
7	☐	0.200	-0.016	14.67	0.0000	P	36.2	-108.0
8	☐	1.000	5.034	1362.47	0.0010	P	3.8	403.4
9	☐	2.000	0.005	21.00	0.0000	P	12.0	-99.7
10	☐			20.00	0.0000	P	11.7	
11	☐			20.00	0.0000	P	17.1	

y = 1.9204E-004 * x + 1.3603E-005

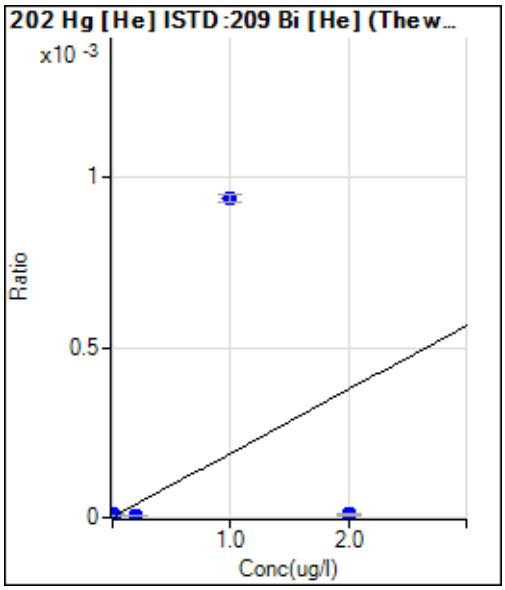
R = 0.3320

DL = 0.06945 ug/l

BEC = 0.07083 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4.33	0.0000	P	58.8	
2	☐			4.33	0.0000	P	26.7	
3	☐	0.001	0.024	8.33	0.0000	P	42.9	2329.0
4	☐	0.002	0.014	6.67	0.0000	P	73.0	624.0
5	☐	0.010	-0.004	3.67	0.0000	P	15.9	-141.3
6	☐	0.020	0.014	6.67	0.0000	P	8.3	-29.2
7	☐	0.200	0.002	4.67	0.0000	P	11.9	-99.0
8	☐	1.000	4.984	814.20	0.0009	P	2.7	398.4
9	☐	2.000	0.028	9.00	0.0000	P	55.5	-98.6
10	☐			6.67	0.0000	P	34.3	
11	☐			7.00	0.0000	P	52.5	

y = 1.8764E-004 * x + 5.0189E-006

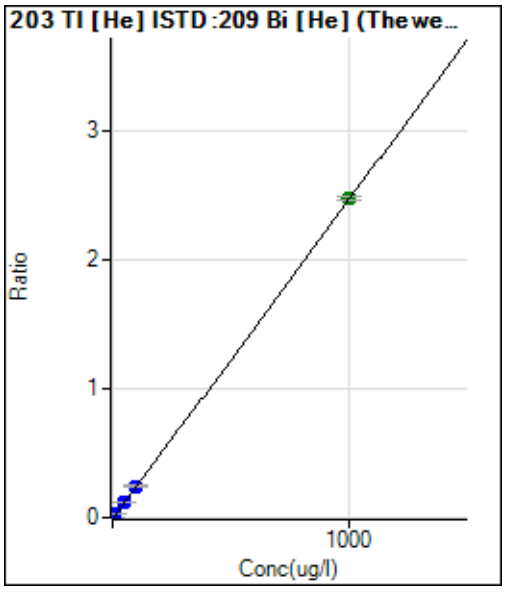
R = 0.3332

DL = 0.04717 ug/l

BEC = 0.02675 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	79.37	0.0001	P	14.8	
2	☐	0.025	0.026	134.72	0.0002	P	17.8	2.3
3	☐	0.050	0.060	210.09	0.0002	P	12.8	20.5
4	☐	0.100	0.105	308.80	0.0004	P	7.8	5.2
5	☐	0.500	0.504	1161.19	0.0013	P	5.4	0.9
6	☐	1.000	1.088	2423.87	0.0028	P	2.5	8.8
7	☐	10.000	10.693	23071.16	0.0266	P	2.7	6.9
8	☐	50.000	50.608	108865.63	0.1257	P	1.0	1.2
9	☐	100.000	98.676	214540.00	0.2450	P	1.5	-1.3
10	☐	1000.000	1000.095	2126095.93	2.4824	A	1.6	0.0
11	☐			661.62	0.0008	P	2.7	

y = 0.0025 * x + 9.1424E-005

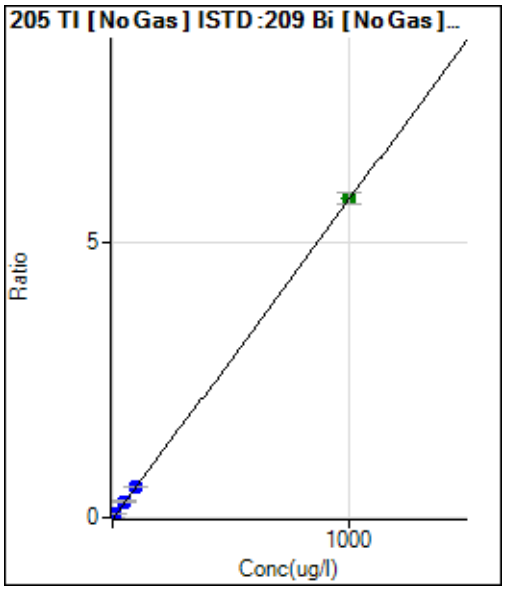
R = 1.0000

DL = 0.01631 ug/l

BEC = 0.03683 ug/l

Weight: 1/y

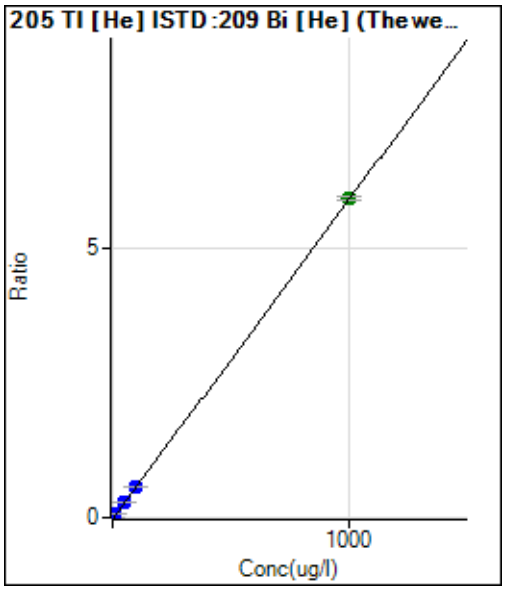
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	298.89	0.0002	P	8.1	
2	☐	0.025	0.027	530.02	0.0004	P	7.9	8.8
3	☐	0.050	0.050	714.47	0.0005	P	5.4	-0.2
4	☐	0.100	0.106	1160.06	0.0008	P	6.2	5.8
5	☐	0.500	0.499	4320.73	0.0031	P	8.2	-0.2
6	☐	1.000	1.095	9168.77	0.0065	P	3.5	9.5
7	☐	10.000	10.601	86054.39	0.0616	P	1.6	6.0
8	☐	50.000	50.720	407993.88	0.2937	P	2.3	1.4
9	☐	100.000	97.236	809393.44	0.5629	P	1.6	-2.8
10	☐	1000.000	1000.234	8111810.78	5.7886	A	3.6	0.0
11	☐			3143.72	0.0021	P	4.0	

y = 0.0058 * x + 2.0926E-004
R = 1.0000
DL = 0.008792 ug/l
BEC = 0.03616 ug/l

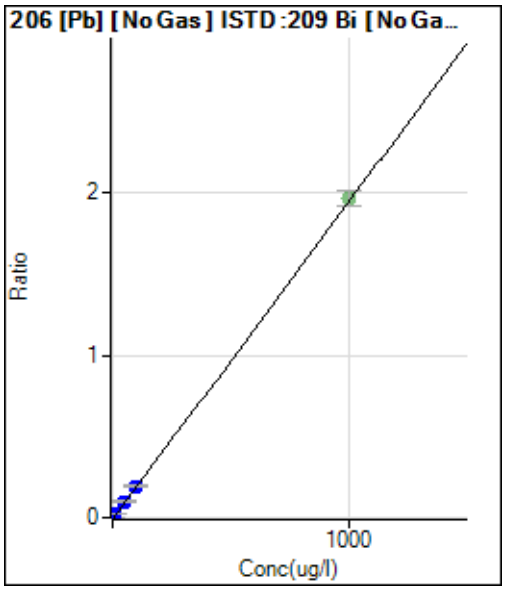
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	174.07	0.0002	P	12.9	
2	☐	0.025	0.027	315.46	0.0004	P	7.8	9.2
3	☐	0.050	0.059	481.54	0.0006	P	2.0	18.6
4	☐	0.100	0.108	735.65	0.0008	P	6.5	7.9
5	☐	0.500	0.538	2930.17	0.0034	P	2.4	7.6
6	☐	1.000	1.119	5933.05	0.0068	P	2.4	11.9
7	☐	10.000	10.703	55130.98	0.0636	P	2.1	7.0
8	☐	50.000	50.286	258345.87	0.2983	P	0.4	0.6
9	☐	100.000	98.075	509264.79	0.5816	P	0.6	-1.9
10	☐	1000.000	1000.171	5078330.80	5.9293	A	1.5	0.0
11	☐			1492.02	0.0018	P	1.5	

y = 0.0059 * x + 2.0085E-004
R = 1.0000
DL = 0.01306 ug/l
BEC = 0.03388 ug/l

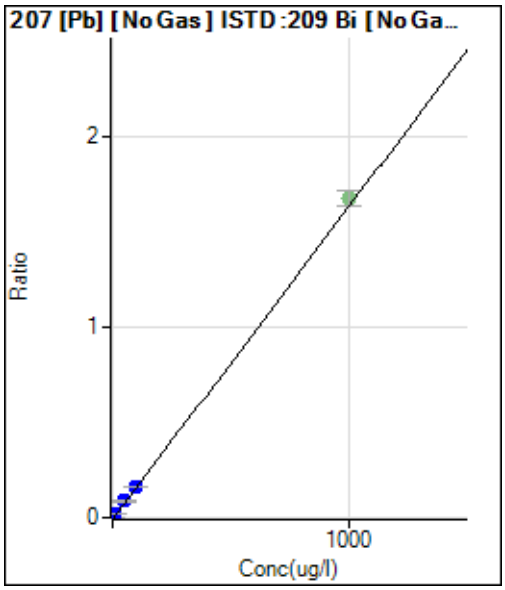
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	120.00	0.0001	P	22.2	
2	☐	0.025	0.024	188.89	0.0001	P	15.9	-5.0
3	☐	0.050	0.039	228.89	0.0002	P	5.9	-22.6
4	☐	0.100	0.112	427.79	0.0003	P	8.9	11.8
5	☐	0.500	0.529	1560.10	0.0011	P	7.3	5.7
6	☐	1.000	1.084	3087.05	0.0022	P	3.4	8.4
7	☐	10.000	10.819	29683.30	0.0212	P	2.8	8.2
8	☐	50.000	51.375	139591.95	0.1005	P	1.9	2.8
9	☐	100.000	99.230	279084.52	0.1941	P	2.5	-0.8
10	☑	1000.000		2756455.58	1.9675	A	4.9	
11	☐			707.80	0.0005	P	5.3	

y = 0.0020 * x + 8.4297E-005
R = 0.9999
DL = 0.02874 ug/l
BEC = 0.04312 ug/l

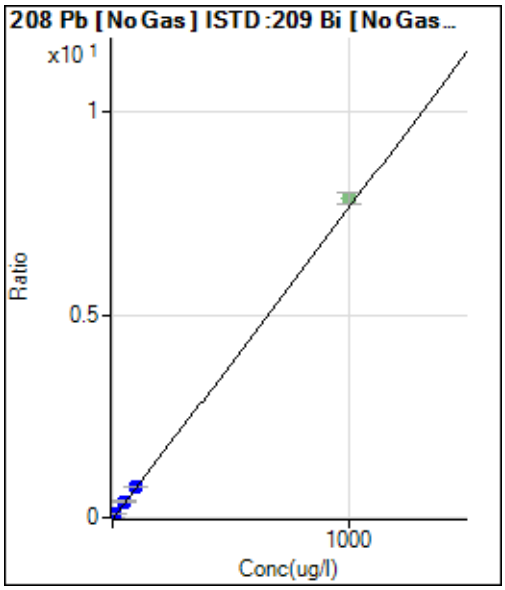
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	91.11	0.0001	P	14.6	
2	☐	0.025	0.038	181.12	0.0001	P	12.0	50.2
3	☐	0.050	0.037	178.89	0.0001	P	11.6	-25.0
4	☐	0.100	0.110	344.45	0.0002	P	20.2	10.0
5	☐	0.500	0.558	1368.97	0.0010	P	3.9	11.6
6	☐	1.000	1.116	2653.62	0.0019	P	2.4	11.6
7	☐	10.000	11.089	25521.29	0.0183	P	0.9	10.9
8	☐	50.000	52.672	120078.61	0.0865	P	3.1	5.3
9	☐	100.000	98.554	232589.43	0.1617	P	2.9	-1.4
10	☑	1000.000		2348972.62	1.6766	A	4.7	
11	☐			612.24	0.0004	P	4.3	

y = 0.0016 * x + 6.3605E-005
R = 0.9995
DL = 0.01701 ug/l
BEC = 0.03878 ug/l

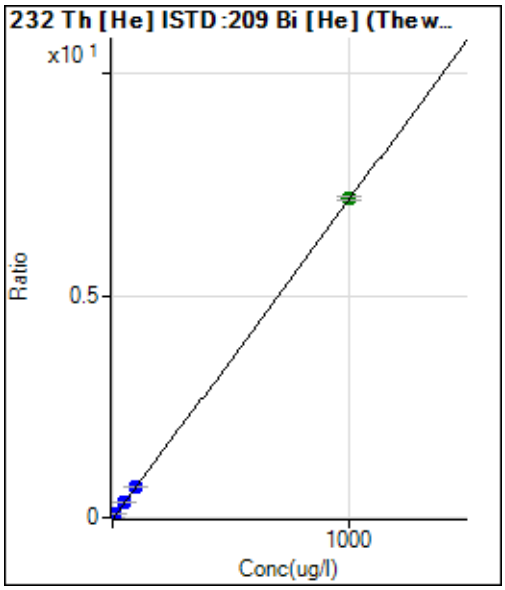
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	418.89	0.0003	P	2.6	
2	☐	0.025	0.034	804.46	0.0006	P	8.4	37.1
3	☐	0.050	0.041	868.91	0.0006	P	6.2	-18.3
4	☐	0.100	0.109	1601.16	0.0011	P	3.8	9.4
5	☐	0.500	0.543	6232.84	0.0045	P	3.3	8.5
6	☐	1.000	1.106	12316.81	0.0088	P	2.4	10.6
7	☐	10.000	10.817	116596.18	0.0834	P	1.9	8.2
8	☐	50.000	52.342	558928.30	0.4024	P	1.5	4.7
9	☐	100.000	98.746	1091318.27	0.7589	P	1.3	-1.3
10	☑	1000.000		11037827.98	7.8772	A	4.0	
11	☐			2772.36	0.0019	P	1.7	

y = 0.0077 * x + 2.9323E-004
R = 0.9996
DL = 0.002936 ug/l
BEC = 0.03817 ug/l

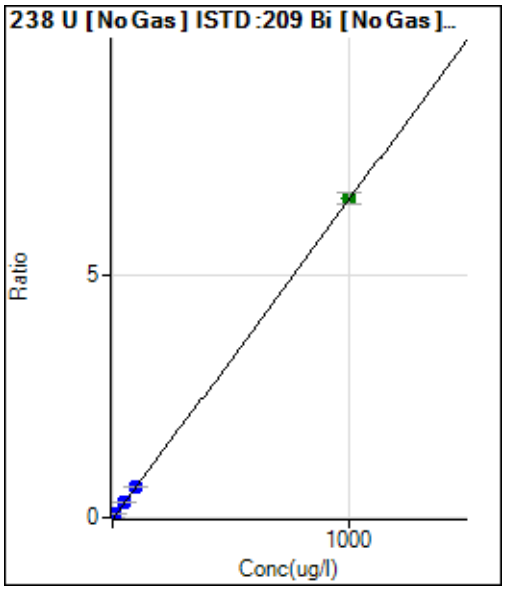
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	42.68	0.0000	P	31.2	
2	☐	0.025	0.016	143.39	0.0002	P	9.8	-35.6
3	☐	0.050	0.031	234.76	0.0003	P	14.4	-38.8
4	☐	0.100	0.074	506.88	0.0006	P	4.6	-26.4
5	☐	0.500	0.450	2842.79	0.0033	P	6.4	-9.9
6	☐	1.000	0.962	6055.19	0.0070	P	2.2	-3.8
7	☐	10.000	10.213	63736.55	0.0736	P	0.7	2.1
8	☐	50.000	49.677	309754.92	0.3576	P	1.1	-0.6
9	☐	100.000	97.307	613399.42	0.7005	P	1.5	-2.7
10	☐	1000.000	1000.283	6167763.47	7.2007	A	0.9	0.0
11	☐			1433.99	0.0017	P	10.6	

y = 0.0072 * x + 4.8962E-005
R = 1.0000
DL = 0.006358 ug/l
BEC = 0.006802 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	24.00	0.0000	P	42.1	
2	☐	0.025	0.028	286.28	0.0002	P	2.1	10.5
3	☐	0.050	0.050	492.25	0.0003	P	1.6	-0.4
4	☐	0.100	0.109	1035.50	0.0007	P	2.9	9.2
5	☐	0.500	0.504	4644.24	0.0033	P	0.7	0.8
6	☐	1.000	1.057	9738.69	0.0070	P	1.7	5.7
7	☐	10.000	10.372	95159.04	0.0681	P	2.3	3.7
8	☐	50.000	50.311	458616.95	0.3302	P	1.6	0.6
9	☐	100.000	96.382	909491.29	0.6325	P	1.5	-3.6
10	☐	1000.000	1000.343	9199341.58	6.5642	A	3.1	0.0
11	☐			1360.47	0.0009	P	2.5	

y = 0.0066 * x + 1.6747E-005

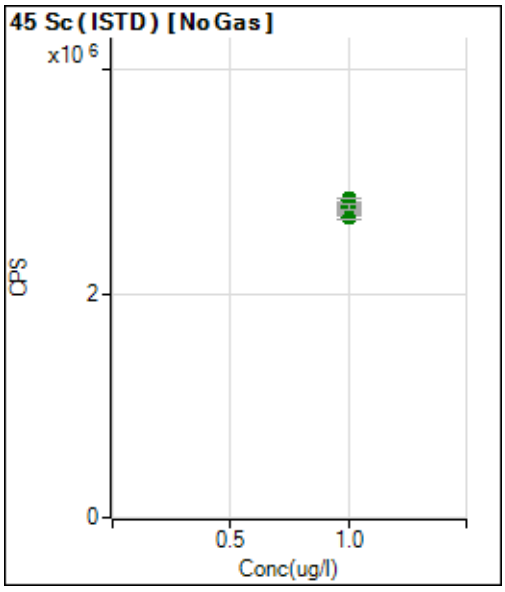
R = 1.0000

DL = 0.00322 ug/l

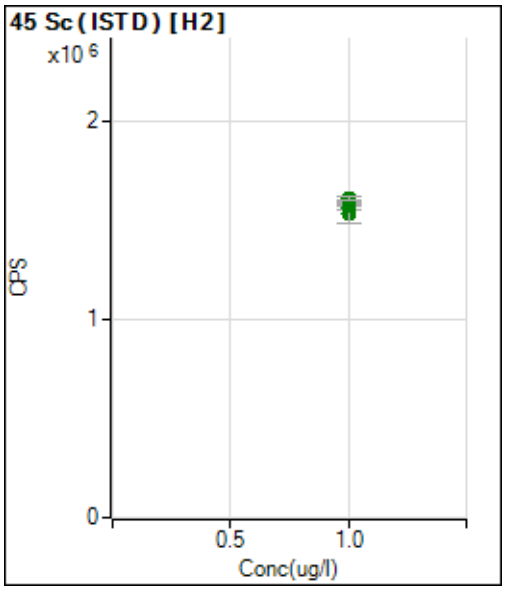
BEC = 0.002552 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2690306.33		A	1.4	
2	☐	1.000		2730650.41		A	1.0	
3	☐	1.000		2735614.86		A	2.2	
4	☐	1.000		2725670.27		A	1.4	
5	☐	1.000		2746339.45		A	2.7	
6	☐	1.000		2765097.35		A	3.7	
7	☐	1.000		2727190.40		A	0.7	
8	☐	1.000		2761072.98		A	1.9	
9	☐	1.000		2854473.42		A	0.6	
10	☐	1.000		2832563.67		A	1.8	
11	☐	1.000		2778431.51		A	1.7	



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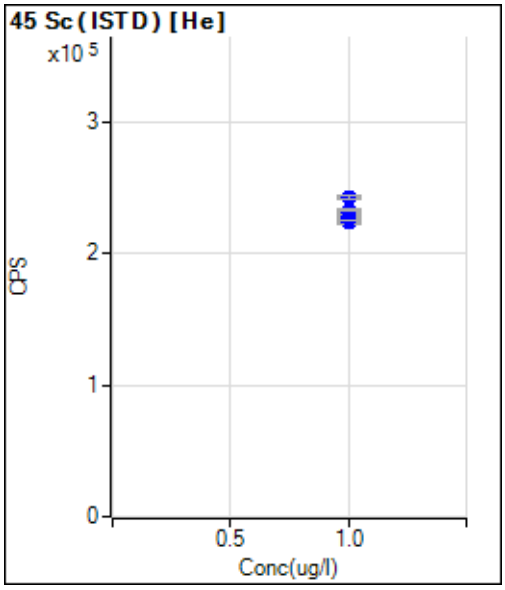
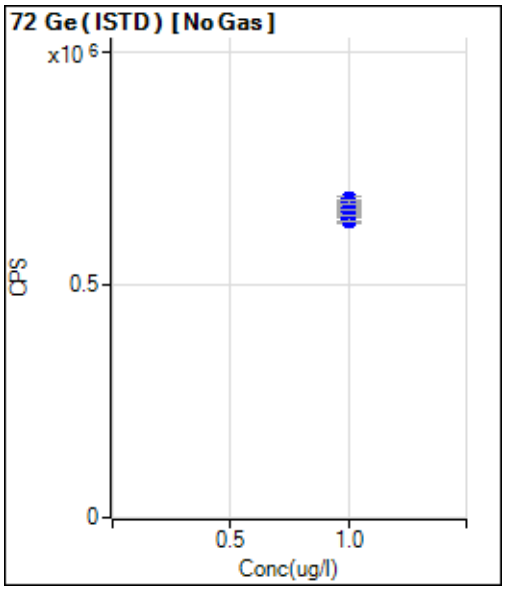
1	☐	1.000		1594616.03		A	0.2	
2	☐	1.000		1573224.53		A	0.4	
3	☐	1.000		1585207.90		A	0.6	
4	☐	1.000		1562112.50		A	1.4	
5	☐	1.000		1564634.98		A	1.1	
6	☐	1.000		1533026.70		A	6.3	
7	☐	1.000		1575307.89		A	0.9	
8	☐	1.000		1581497.89		A	0.3	
9	☐	1.000		1596282.96		A	0.5	
10	☐	1.000		1610607.16		A	0.8	
11	☐	1.000		1611272.76		A	1.4	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		226047.03		P	1.9	
2	☐	1.000		228380.71		P	1.7	
3	☐	1.000		224552.89		P	1.7	
4	☐	1.000		224813.66		P	0.6	
5	☐	1.000		222936.91		P	1.4	
6	☐	1.000		226104.60		P	1.2	
7	☐	1.000		227532.86		P	1.6	
8	☐	1.000		231524.73		P	1.3	
9	☐	1.000		242170.30		P	0.5	
10	☐	1.000		242551.26		P	1.6	
11	☐	1.000		232851.77		P	1.1	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		652390.19		P	2.3	
2	☐	1.000		653083.50		P	1.2	
3	☐	1.000		639602.89		P	1.5	
4	☐	1.000		659170.20		P	0.9	
5	☐	1.000		643242.58		P	2.3	
6	☐	1.000		647200.50		P	2.6	
7	☐	1.000		658134.74		P	2.0	
8	☐	1.000		667458.80		P	1.1	
9	☐	1.000		687244.99		P	1.1	
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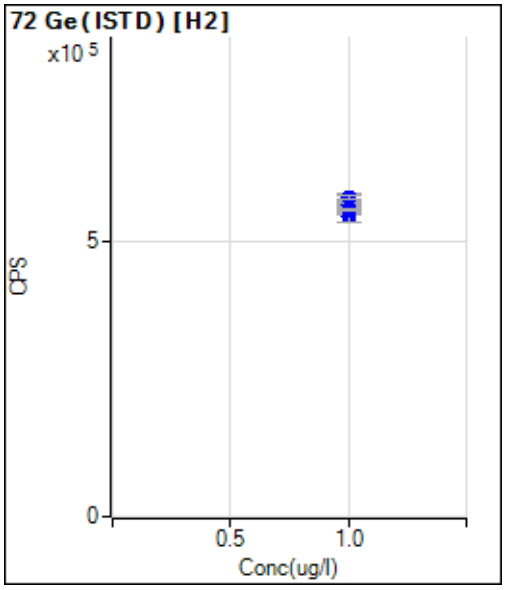
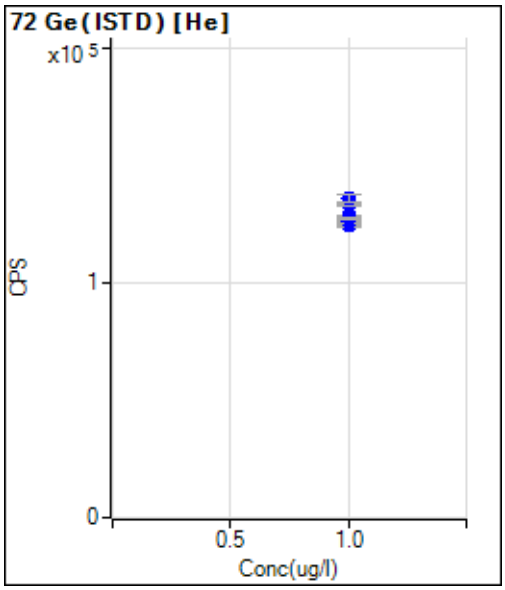


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		556125.38		P	0.9	
2	☐	1.000		551883.16		P	0.7	
3	☐	1.000		563733.72		P	1.4	
4	☐	1.000		556522.15		P	0.5	
5	☐	1.000		560997.95		P	1.8	
6	☐	1.000		547548.84		P	3.7	
7	☐	1.000		557645.94		P	1.0	
8	☐	1.000		568315.28		P	1.3	
9	☐	1.000		581470.45		P	1.9	
10	☐	1.000		581692.53		P	1.2	
11	☐	1.000		559681.12		P	0.9	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		125536.13		P	1.7	
2	☐	1.000		126389.23		P	1.5	
3	☐	1.000		125001.80		P	1.3	
4	☐	1.000		124107.40		P	1.4	
5	☐	1.000		124125.72		P	0.4	
6	☐	1.000		126262.14		P	0.9	
7	☐	1.000		126306.61		P	1.7	
8	☐	1.000		128246.28		P	0.7	
9	☐	1.000		133297.62		P	0.8	
10	☐	1.000		135847.94		P	2.3	
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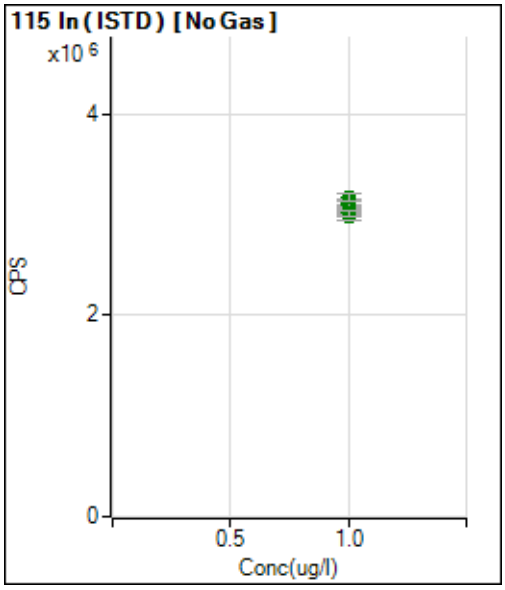

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
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2	☐	1.000		3096029.17		A	1.9	
3	☐	1.000		3104277.65		A	2.5	
4	☐	1.000		3046566.86		A	1.3	
5	☐	1.000		3016738.23		A	0.9	
6	☐	1.000		3097899.70		A	2.3	
7	☐	1.000		3020773.87		A	0.7	
8	☐	1.000		2991815.75		A	0.9	
9	☐	1.000		2986933.16		A	2.6	
10	☐	1.000		3011807.21		A	1.9	
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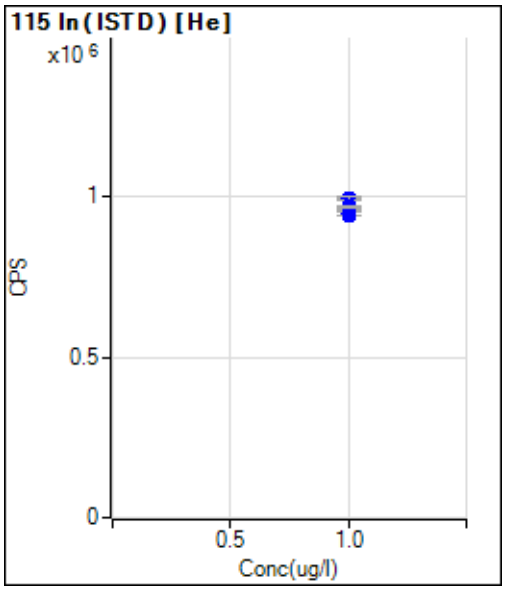

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2	☐	1.000		956292.92		P	0.8	
3	☐	1.000		959018.55		P	0.9	
4	☐	1.000		947145.11		P	1.5	
5	☐	1.000		941831.22		P	0.4	
6	☐	1.000		956460.37		P	0.5	
7	☐	1.000		957654.49		P	0.9	
8	☐	1.000		958834.89		P	0.2	
9	☐	1.000		990207.61		P	0.7	
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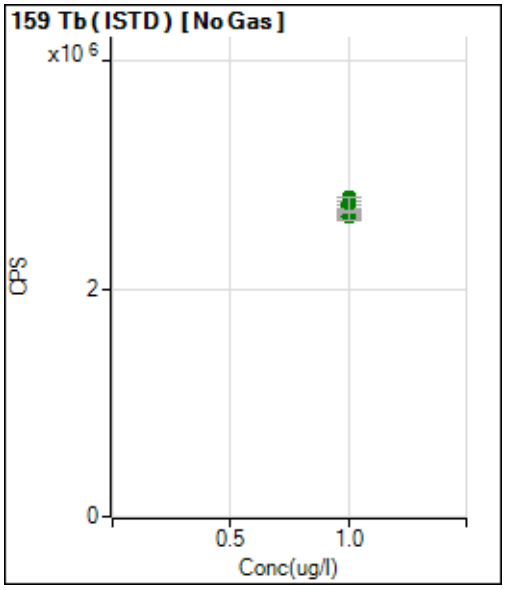
11	☐	1.000		969744.27		P	0.8	



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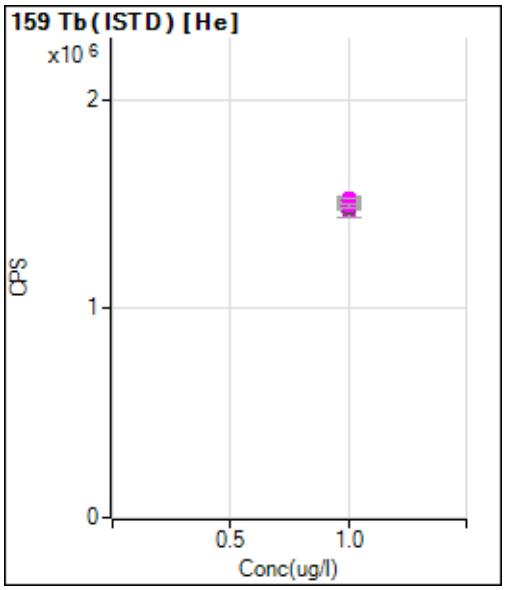
2	☐	1.000		2716191.07		A	1.8	
3	☐	1.000		2665772.60		A	0.4	
4	☐	1.000		2627472.90		A	1.9	
5	☐	1.000		2668219.38		A	0.1	
6	☐	1.000		2645377.24		A	2.5	
7	☐	1.000		2637677.43		A	0.6	
8	☐	1.000		2642268.97		A	2.5	
9	☐	1.000		2743846.30		A	2.6	
10	☐	1.000		2804718.84		A	0.1	
11	☐	1.000		2746743.21		A	3.8	



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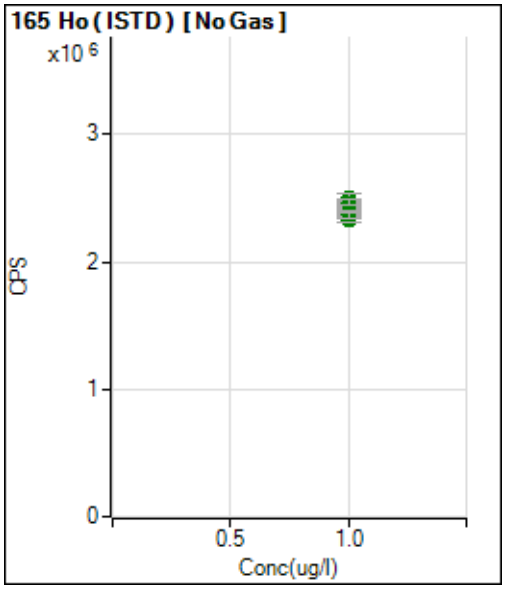
2	☐	1.000		1477811.81		M	0.9	
3	☐	1.000		1485491.19		M	2.2	
4	☐	1.000		1460253.35		M	3.6	
5	☐	1.000		1477710.58		P	0.7	
6	☐	1.000		1512143.77		M	1.6	
7	☐	1.000		1477230.02		A	0.6	
8	☐	1.000		1503908.48		M	1.0	
9	☐	1.000		1527026.14		M	1.7	
10	☐	1.000		1518532.80		M	1.2	
11	☐	1.000		1488306.98		M	1.3	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
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2	☐	1.000		2471408.36		A	0.3	
3	☐	1.000		2396248.53		A	3.4	
4	☐	1.000		2332741.49		A	2.2	
5	☐	1.000		2390827.75		A	2.0	
6	☐	1.000		2395475.34		A	2.5	
7	☐	1.000		2326159.12		A	0.8	
8	☐	1.000		2363933.69		A	1.8	
9	☐	1.000		2440562.45		A	3.4	
10	☐	1.000		2507213.22		A	2.5	
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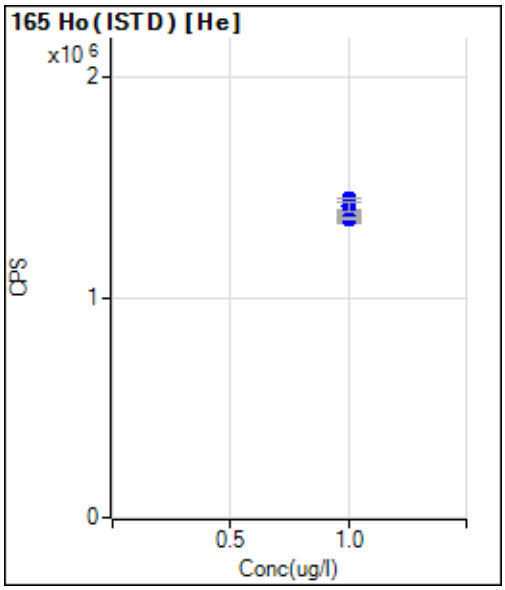

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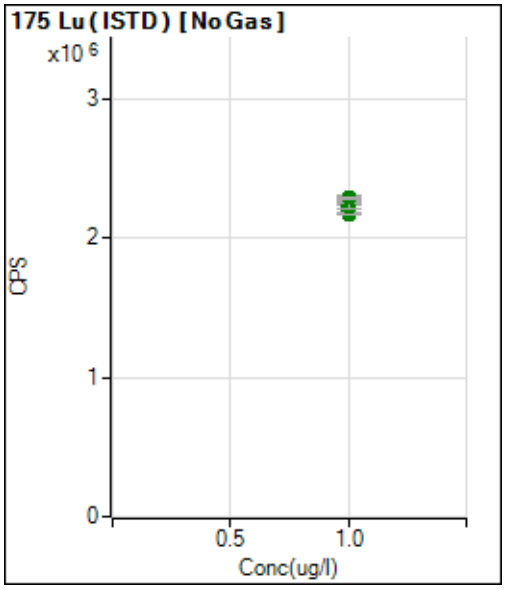
2	☐	1.000		1362591.93		P	1.8	
3	☐	1.000		1388626.12		P	2.0	
4	☐	1.000		1370526.68		P	1.9	
5	☐	1.000		1355370.97		P	1.2	
6	☐	1.000		1356590.62		P	2.2	
7	☐	1.000		1380542.54		P	1.6	
8	☐	1.000		1368564.64		P	2.0	
9	☐	1.000		1452273.58		P	0.4	
10	☐	1.000		1416169.99		P	3.0	
11	☐	1.000		1359179.21		P	0.9	



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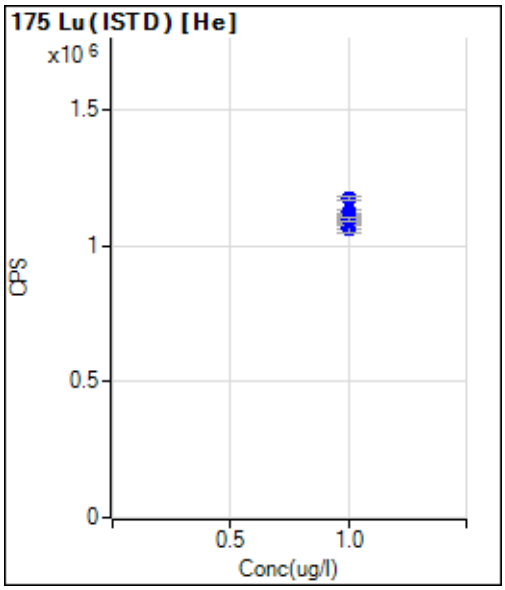
2	☐	1.000		2247142.77		A	1.1	
3	☐	1.000		2206022.69		A	2.6	
4	☐	1.000		2197107.16		A	1.4	
5	☐	1.000		2176868.12		A	0.8	
6	☐	1.000		2222317.16		A	3.5	
7	☐	1.000		2175339.27		A	0.7	
8	☐	1.000		2236773.52		A	1.7	
9	☐	1.000		2229734.40		A	1.9	
10	☐	1.000		2295797.12		A	1.4	
11	☐	1.000		2289466.26		A	0.5	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
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2	☐	1.000		1106415.92		P	1.1	
3	☐	1.000		1122682.58		P	2.2	
4	☐	1.000		1068844.94		P	1.3	
5	☐	1.000		1060063.07		P	2.5	
6	☐	1.000		1092250.05		P	2.7	
7	☐	1.000		1118755.02		P	0.5	
8	☐	1.000		1109200.93		P	0.5	
9	☐	1.000		1175697.68		P	1.7	
10	☐	1.000		1172841.85		P	1.1	
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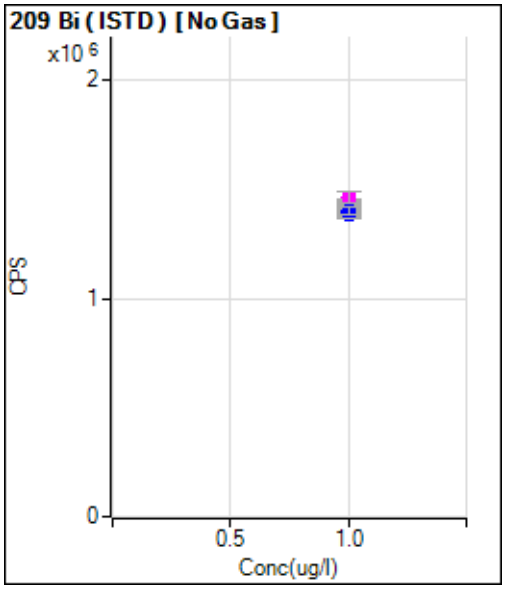

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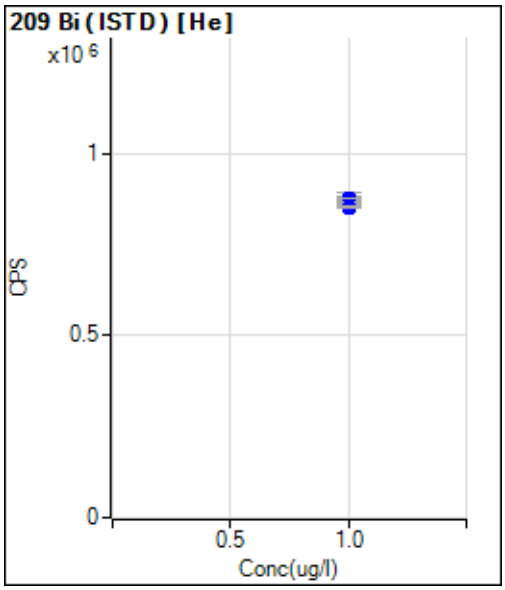
1	☐	1.000		1428906.69		M	2.5	
2	☐	1.000		1446102.69		M	0.8	
3	☐	1.000		1432557.11		P	3.6	
4	☐	1.000		1412044.15		P	0.1	
5	☐	1.000		1397601.04		P	3.4	
6	☐	1.000		1401224.30		M	0.9	
7	☐	1.000		1398154.83		P	1.5	
8	☐	1.000		1389238.79		P	2.7	
9	☐	1.000		1437926.99		P	1.3	
10	☐	1.000		1402199.68		P	2.6	
11	☐	1.000		1465498.11		M	3.7	

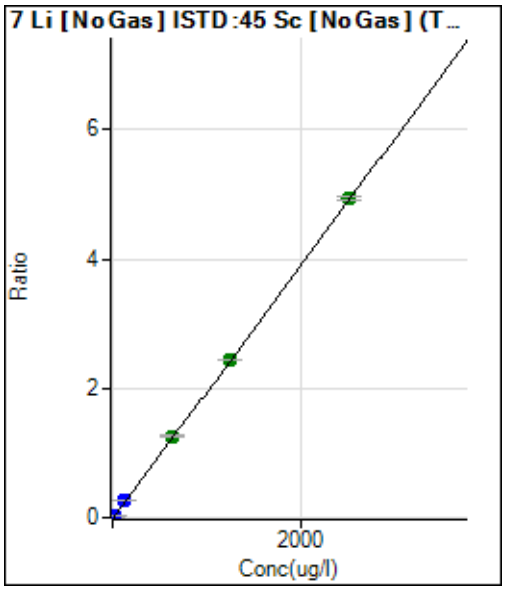


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		868118.45		P	2.1	
2	☐	1.000		870654.71		P	2.7	
3	☐	1.000		871938.20		P	0.8	
4	☐	1.000		876329.67		P	3.4	
5	☐	1.000		864237.61		P	1.0	
6	☐	1.000		868179.66		P	1.3	
7	☐	1.000		866387.70		P	1.7	
8	☐	1.000		866055.27		P	0.5	
9	☐	1.000		875625.30		P	0.1	
10	☐	1.000		856639.64		P	1.9	
11	☐	1.000		852129.65		P	1.1	

Calibration for 086CALS.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\220114ADoD.b\
Analysis File: 220114ADoD.batch.bin
DA Date-Time: 2022-01-14 20:54:04
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

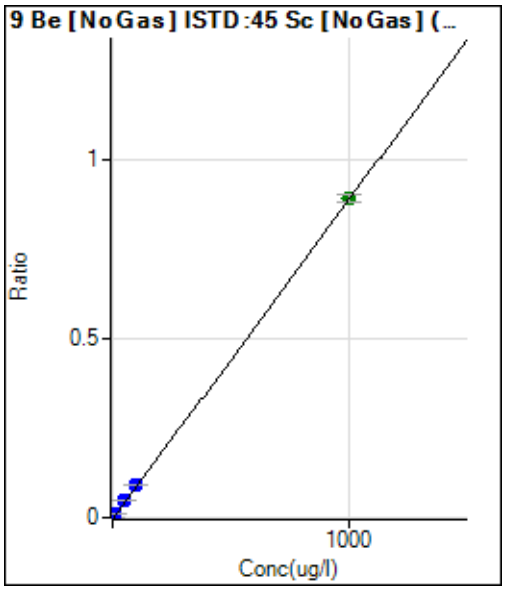
Level	Standard Data File	Sample Name	Acq. Date-Time
1	076CALB.d	Cal Blk	2022-01-14 19:46:59
2	077CALS.d	0.025 ppb STD	2022-01-14 19:53:23
3	078CALS.d	0.05 ppb STD	2022-01-14 19:59:47
4	079CALS.d	0.10 ppb STD	2022-01-14 20:06:10
5	080CALS.d	0.5 ppb STD	2022-01-14 20:12:33
6	081CALS.d	1 ppb STD	2022-01-14 20:18:57
7	082CALS.d	10 ppb STD	2022-01-14 20:25:20
8	083CALS.d	50 ppb STD	2022-01-14 20:31:44
9	084CALS.d	100 ppb STD	2022-01-14 20:38:06
10	085CALS.d	1000 ppb STD	2022-01-14 20:44:32
11	086CALS.d	100 ppb Br STD	2022-01-14 20:50:56



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5140.27	0.0025	P	3.4	
2	☐	0.313	0.168	5802.78	0.0028	P	2.9	-46.1
3	☐	0.625	0.537	7214.62	0.0035	P	1.3	-14.1
4	☐	1.250	1.279	10192.84	0.0050	P	2.1	2.3
5	☐	6.250	6.633	31666.92	0.0156	P	3.0	6.1
6	☐	12.500	14.035	60824.73	0.0302	P	2.4	12.3
7	☐	125.000	133.325	548248.78	0.2655	P	2.5	6.7
8	☐	625.000	639.809	2539406.12	1.2645	A	0.7	2.4
9	☐	1250.000	1234.251	5104373.22	2.4370	A	0.9	-1.3
10	☐	2500.000	2503.747	11537467.72	4.9411	A	1.4	0.1
11	☐			24366.55	0.0105	P	2.4	

y = 0.0020 * x + 0.0025
R = 1.0000
DL = 0.1269 ug/l
BEC = 1.26 ug/l

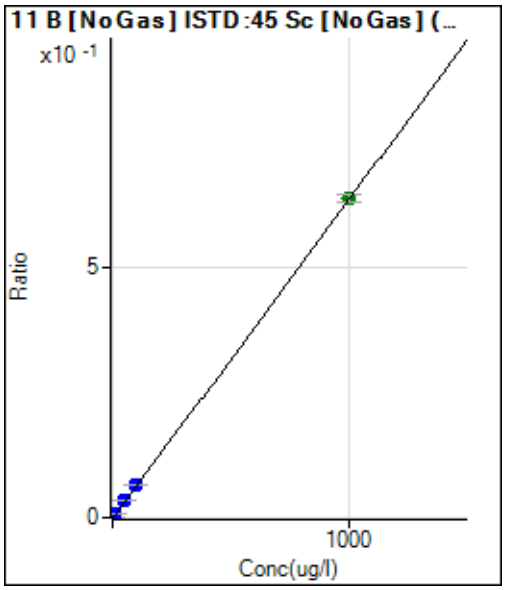
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	36.66	0.0000	P	27.6	
2	☐	0.025	0.025	82.31	0.0000	P	2.7	-0.7
3	☐	0.050	0.057	140.64	0.0001	P	5.5	14.9
4	☐	0.100	0.110	236.96	0.0001	P	3.6	10.5
5	☐	0.500	0.522	983.50	0.0005	P	5.7	4.3
6	☐	1.000	1.111	2036.40	0.0010	P	3.3	11.1
7	☐	10.000	11.189	20691.65	0.0100	P	6.9	11.9
8	☐	50.000	52.260	93779.98	0.0467	P	0.7	4.5
9	☐	100.000	100.745	188494.32	0.0900	P	0.4	0.7
10	☐	1000.000	999.800	2085065.98	0.8930	A	1.9	0.0
11	☐			613.89	0.0003	P	7.8	

y = 8.9317E-004 * x + 1.7779E-005
R = 1.0000
DL = 0.01647 ug/l
BEC = 0.01991 ug/l

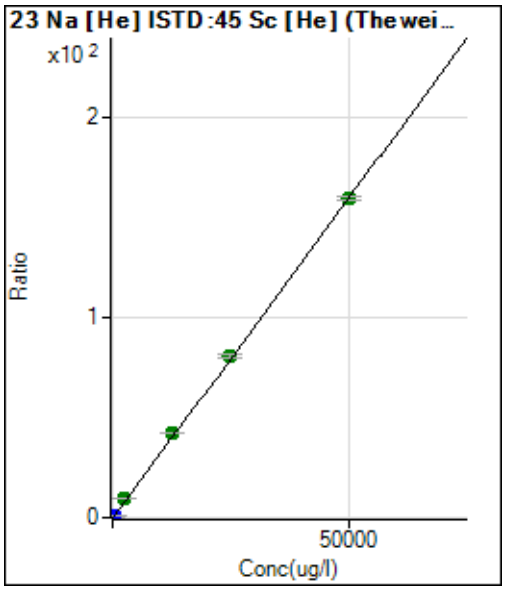
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2721.34	0.0013	P	5.3	
2	☐			2359.80	0.0011	P	2.4	
3	☐	0.050	-0.421	2132.37	0.0010	P	4.0	-943.0
4	☐	0.100	-0.613	1884.88	0.0009	P	2.1	-713.1
5	☐	0.500	-0.300	2288.43	0.0011	P	3.8	-160.1
6	☐	1.000	0.231	2950.81	0.0015	P	1.5	-76.9
7	☐	10.000	9.623	15373.96	0.0074	P	2.5	-3.8
8	☐	50.000	52.204	69388.62	0.0346	P	1.9	4.4
9	☐	100.000	100.868	137253.80	0.0655	P	0.4	0.9
10	☐	1000.000	999.808	1489240.23	0.6378	A	2.6	0.0
11	☐			21338.87	0.0092	P	5.9	

y = 6.3663E-004 * x + 0.0013
R = 1.0000
DL = 0.3292 ug/l
BEC = 2.067 ug/l

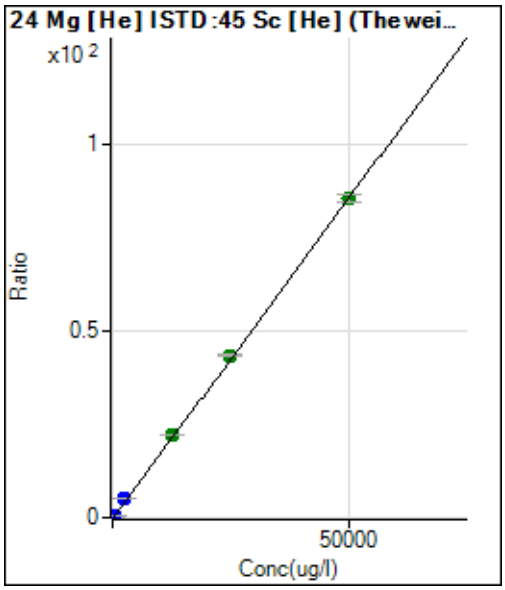
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	59492.42	0.3711	P	2.0	
2	☐	6.250	8.972	62362.83	0.3997	P	0.9	43.5
3	☐	12.500	13.484	64064.37	0.4141	P	1.6	7.9
4	☐	25.000	29.777	72660.94	0.4662	P	1.9	19.1
5	☐	125.000	136.779	124770.85	0.8080	P	0.8	9.4
6	☐	250.000	301.594	202507.38	1.3345	P	1.8	20.6
7	☐	2500.000	2903.441	1497186.26	9.6459	A	0.7	16.1
8	☐	12500.00	13100.71	6692418.09	42.2205	A	0.5	4.8
9	☐	25000.00	25193.60	13896845.21	80.8505	A	2.9	0.8
10	☐	50000.00	49732.55	31577335.64	159.238	A	1.7	-0.5
11	☐			72161.88	0.4121	P	1.7	

y = 0.0032 * x + 0.3711
R = 0.9999
DL = 6.959 ug/l
BEC = 116.2 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1171.06	0.0073	P	7.4	
2	☐	6.250	7.907	3267.21	0.0209	P	3.4	26.5
3	☐	12.500	15.696	5317.07	0.0344	P	5.3	25.6
4	☐	25.000	31.071	9487.56	0.0609	P	1.9	24.3
5	☐	125.000	145.007	39727.04	0.2573	P	1.4	16.0
6	☐	250.000	308.554	81833.37	0.5392	P	1.0	23.4
7	☐	2500.000	2861.725	766741.68	4.9403	P	1.4	14.5
8	☐	12500.00	12889.78	3522566.57	22.2266	A	2.0	3.1
9	☐	25000.00	25305.82	7499840.72	43.6293	A	0.6	1.2
10	☐	50000.00	49731.20	17000348.70	85.7337	A	2.3	-0.5
11	☐			3912.78	0.0224	P	8.7	

y = 0.0017 * x + 0.0073

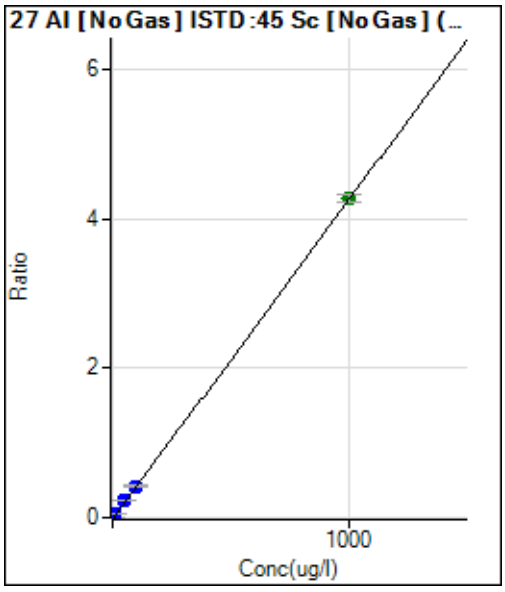
R = 0.9999

DL = 0.9366 ug/l

BEC = 4.24 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4634.07	0.0022	P	0.8	
2	☐			6448.09	0.0031	P	0.3	
3	☐	0.050	0.111	5522.16	0.0027	P	3.6	121.2
4	☐	0.100	0.172	6053.48	0.0030	P	4.0	71.7
5	☐	0.500	0.641	10133.47	0.0050	P	0.3	28.2
6	☐	1.000	1.254	15327.94	0.0076	P	3.6	25.4
7	☐	10.000	10.767	99741.13	0.0483	P	2.4	7.7
8	☐	50.000	52.017	451351.62	0.2247	P	0.7	4.0
9	☐	100.000	98.791	889795.01	0.4248	P	1.3	-1.2
10	☐	1000.000	1000.012	9993347.84	4.2796	A	2.3	0.0
11	☐			9006.09	0.0039	P	1.9	

y = 0.0043 * x + 0.0022

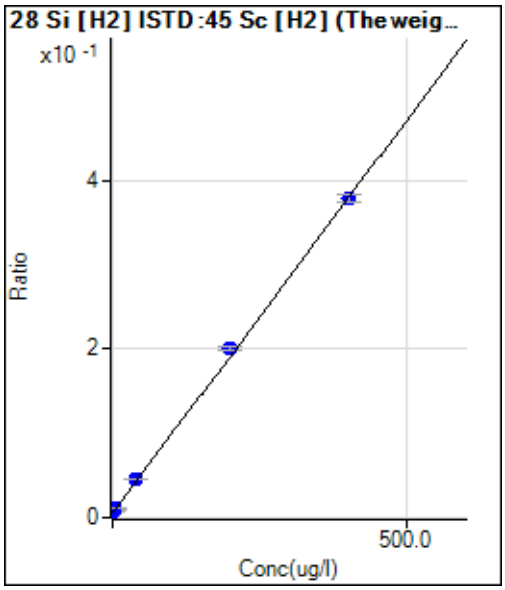
R = 1.0000

DL = 0.01283 ug/l

BEC = 0.5238 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	8836.17	0.0074	P	3.0	
2	☐			8893.88	0.0076	P	8.9	
3	☐	0.200	-0.451	8003.36	0.0070	P	1.0	-325.6
4	☐	0.400	-0.654	7851.88	0.0068	P	0.3	-263.6
5	☐	2.000	1.035	9549.56	0.0084	P	2.5	-48.2
6	☐	4.000	3.281	11990.42	0.0105	P	2.0	-18.0
7	☐	40.000	40.496	52755.74	0.0454	P	1.3	1.2
8	☐	200.000	206.311	237605.14	0.2007	P	2.7	3.2
9	☐	400.000	396.808	465592.01	0.3792	P	2.0	-0.8
10	☐			10596.01	0.0079	P	3.2	
11	☐			8480.48	0.0065	P	0.7	

y = 9.3699E-004 * x + 0.0074

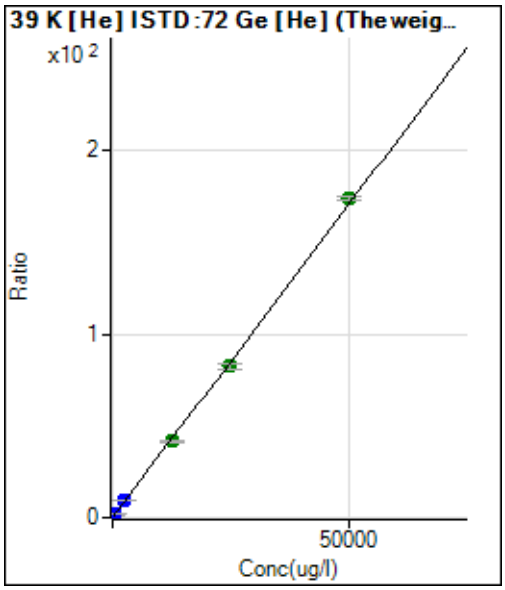
R = 0.9998

DL = 0.7154 ug/l

BEC = 7.926 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	107468.45	1.0909	P	1.5	
2	☐	6.250	2.543	107548.30	1.0996	P	3.0	-59.3
3	☐	12.500	4.350	108385.40	1.1057	P	0.4	-65.2
4	☐	25.000	23.086	112371.23	1.1695	P	1.9	-7.7
5	☐	125.000	119.415	144873.40	1.4976	P	2.8	-4.5
6	☐	250.000	262.105	191464.38	1.9836	P	1.4	4.8
7	☐	2500.000	2536.920	943646.12	9.7318	P	1.6	1.5
8	☐	12500.00	11920.68	4081451.60	41.6933	A	1.7	-4.6
9	☐	25000.00	23824.62	8610411.75	82.2387	A	3.2	-4.7
10	☐	50000.00	50730.62	20263755.53	173.881	A	1.2	1.5
11	☐			347513.38	3.2367	P	1.6	

y = 0.0034 * x + 1.0909

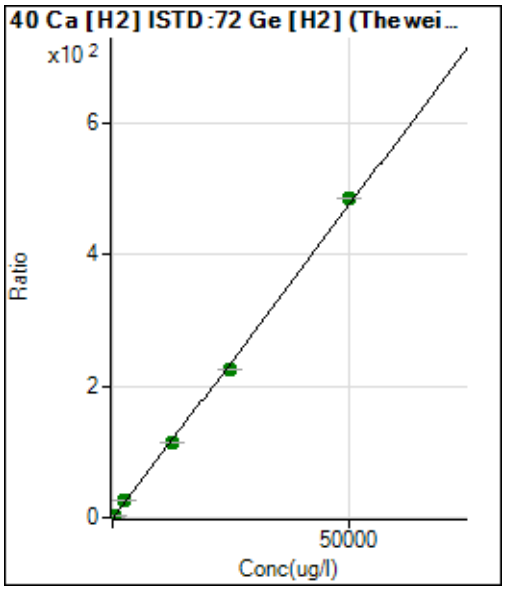
R = 0.9996

DL = 14.03 ug/l

BEC = 320.3 ug/l

Weight: 1/y

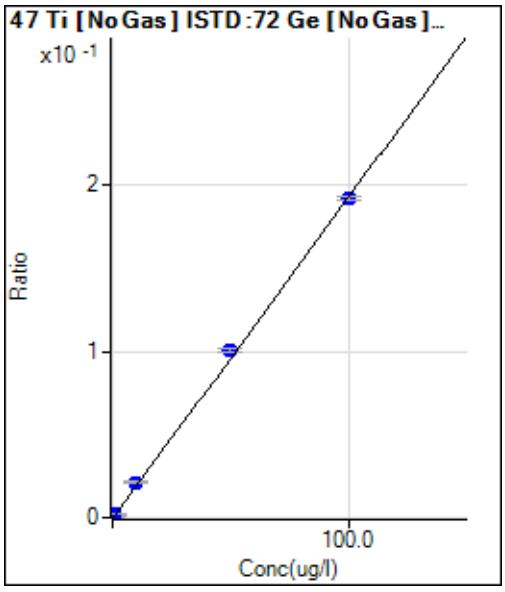
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	165201.24	0.3662	P	2.3	
2	☐	6.250	9.545	204719.01	0.4571	P	1.4	52.7
3	☐	12.500	14.320	224881.11	0.5025	P	1.7	14.6
4	☐	25.000	29.069	286488.55	0.6430	P	1.1	16.3
5	☐	125.000	133.648	726752.95	1.6390	P	2.6	6.9
6	☐	250.000	274.137	1325136.09	2.9769	A	1.7	9.7
7	☐	2500.000	2633.589	11310000.95	25.4472	A	1.2	5.3
8	☐	12500.00	11889.68	52008717.72	113.597	A	1.5	-4.9
9	☐	25000.00	23549.76	106407962.5	224.642	A	0.7	-5.8
10	☐	50000.00	50870.87	248237235.1	484.835	A	0.4	1.7
11	☐			229616.52	0.4717	P	1.9	

y = 0.0095 * x + 0.3662
R = 0.9994
DL = 2.62 ug/l
BEC = 38.45 ug/l

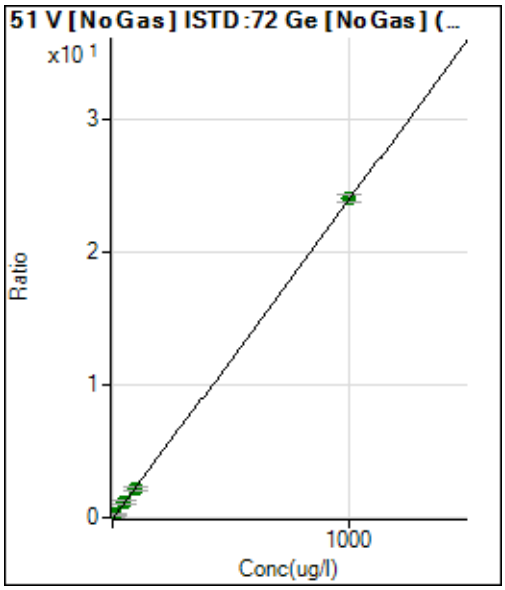
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	216.89	0.0004	P	9.3	
2	☐	0.025	0.097	316.99	0.0006	P	14.9	286.4
3	☐	0.050	0.071	286.96	0.0006	P	11.1	41.2
4	☐	0.100	0.144	358.70	0.0007	P	4.1	43.9
5	☐	0.500	0.562	774.14	0.0015	P	1.9	12.4
6	☐	1.000	1.221	1428.18	0.0028	P	3.6	22.1
7	☐	10.000	10.821	11140.43	0.0214	P	1.3	8.2
8	☐	50.000	51.707	53640.87	0.1006	P	2.9	3.4
9	☐	100.000	99.062	105592.97	0.1923	P	0.7	-0.9
10	☐			7365.95	0.0121	P	2.6	
11	☐			428.77	0.0007	P	6.6	

y = 0.0019 * x + 4.1542E-004
R = 0.9998
DL = 0.05964 ug/l
BEC = 0.2145 ug/l

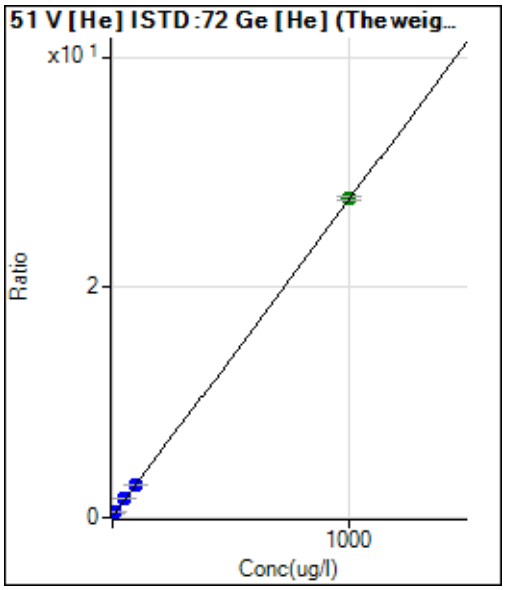
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-4665.52	-0.0089	A	-253.	
2	☐	0.025	-0.455	-10342.04	-0.0198	A	-70.9	-1920.6
3	☐	0.050	2.559	27517.98	0.0527	A	121.	5017.8
4	☐	0.100	2.374	25048.73	0.0483	A	132.	2274.3
5	☐	0.500	2.672	28568.47	0.0554	A	126.	434.4
6	☐	1.000	1.260	10252.61	0.0215	A	616.	26.0
7	☐	10.000	8.744	105038.92	0.2015	A	30.2	-12.6
8	☐	50.000	47.475	604575.41	1.1333	A	16.2	-5.0
9	☐	100.000	90.530	1189618.56	2.1692	A	8.1	-9.5
10	☐	1000.000	1001.084	14603519.09	24.0756	A	1.9	0.1
11	☐			41236.27	0.0685	A	39.7	

y = 0.0241 * x - 0.0089
R = 0.9999
DL = 2.794 ug/l
BEC = -0.3679 ug/l

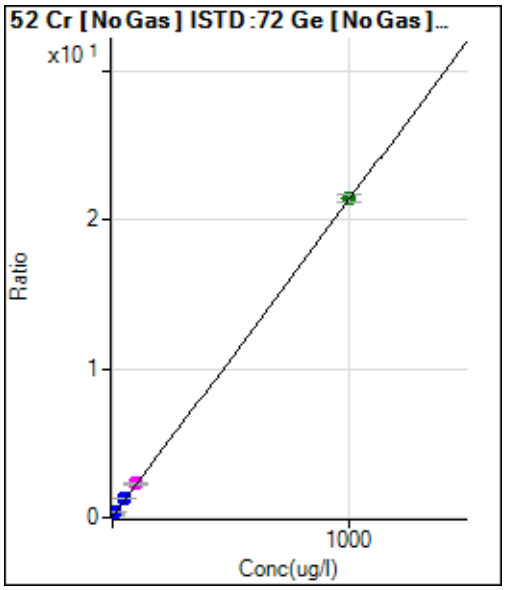
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	25966.28	0.2635	P	2.8	
2	☐	0.025	0.192	26291.31	0.2688	P	2.5	667.6
3	☐	0.050	-0.061	25670.16	0.2618	P	2.6	-221.2
4	☐	0.100	0.028	25388.61	0.2643	P	3.0	-72.5
5	☐	0.500	0.224	26095.33	0.2697	P	0.3	-55.3
6	☐	1.000	0.736	27388.84	0.2838	P	1.4	-26.4
7	☐	10.000	10.168	52670.57	0.5432	P	2.5	1.7
8	☐	50.000	51.166	163587.06	1.6710	P	1.0	2.3
9	☐	100.000	96.324	305167.52	2.9132	P	0.9	-3.7
10	☐	1000.000	1000.308	3236898.39	27.7797	A	1.4	0.0
11	☐			26208.88	0.2441	P	0.9	

y = 0.0275 * x + 0.2635
R = 1.0000
DL = 0.8165 ug/l
BEC = 9.58 ug/l

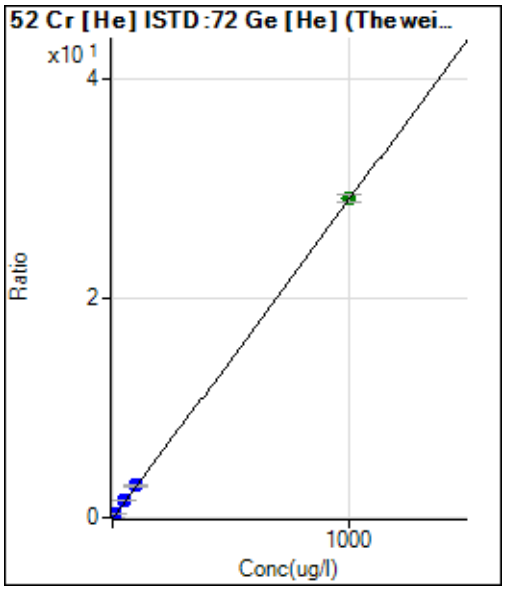
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	87273.75	0.1674	P	3.8	
2	☐	0.025	0.152	89696.80	0.1707	P	2.4	509.8
3	☐	0.050	0.122	88308.18	0.1700	P	0.8	143.0
4	☐	0.100	0.216	88849.67	0.1720	P	2.7	115.7
5	☐	0.500	0.435	90968.85	0.1767	P	0.8	-13.0
6	☐	1.000	1.100	97985.72	0.1908	P	3.9	10.0
7	☐	10.000	10.544	204286.76	0.3920	P	2.5	5.4
8	☐	50.000	52.029	680433.05	1.2757	P	0.3	4.1
9	☐	100.000	99.091	1250425.40	2.2782	M	3.2	-0.9
10	☐	1000.000	999.984	13016891.86	21.4681	A	2.4	0.0
11	☐			104172.79	0.1733	P	1.5	

y = 0.0213 * x + 0.1674
R = 1.0000
DL = 0.8914 ug/l
BEC = 7.859 ug/l

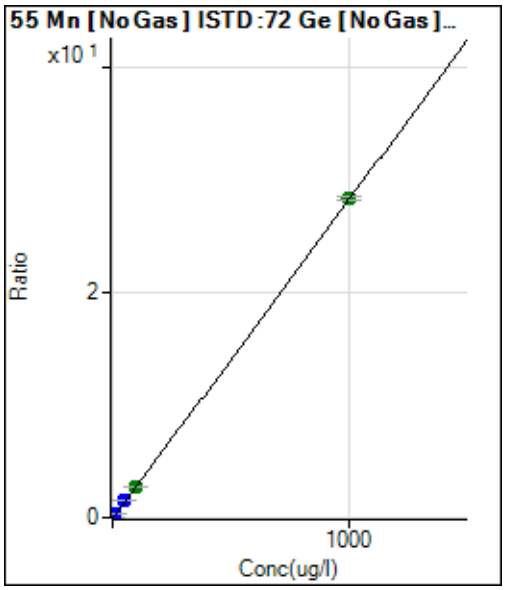
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	4088.37	0.0415	P	4.1	
2	☐	0.025	0.003	4068.37	0.0416	P	5.6	-87.7
3	☐	0.050	0.062	4245.08	0.0433	P	0.7	23.2
4	☐	0.100	0.131	4355.12	0.0453	P	3.7	31.5
5	☐	0.500	0.493	5406.58	0.0559	P	1.7	-1.3
6	☐	1.000	1.124	7167.34	0.0743	P	2.1	12.4
7	☐	10.000	10.836	34646.38	0.3573	P	1.5	8.4
8	☐	50.000	52.043	152510.61	1.5581	P	2.6	4.1
9	☐	100.000	98.176	303959.53	2.9024	P	2.4	-1.8
10	☐	1000.000	1000.072	3400152.69	29.1844	A	2.0	0.0
11	☐			4640.75	0.0432	P	3.6	

y = 0.0291 * x + 0.0415
R = 1.0000
DL = 0.1768 ug/l
BEC = 1.424 ug/l

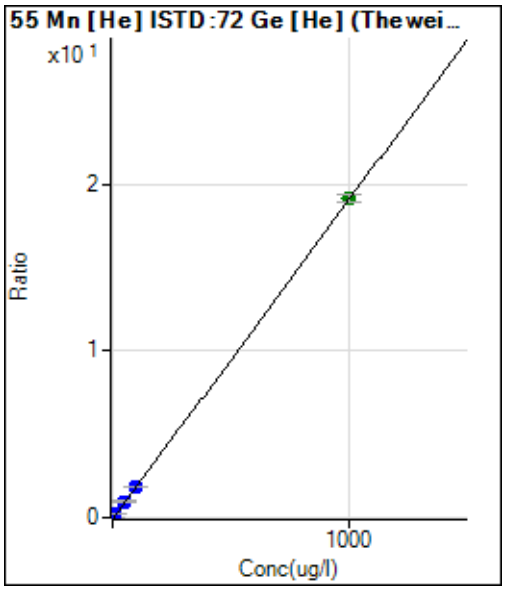
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14162.07	0.0272	P	5.1	
2	☐	0.025	0.085	15544.09	0.0296	P	2.3	239.1
3	☐	0.050	0.063	15034.57	0.0289	P	3.0	25.3
4	☐	0.100	0.099	15480.80	0.0300	P	1.9	-1.3
5	☐	0.500	0.555	22099.46	0.0429	P	0.3	11.1
6	☐	1.000	1.184	31201.28	0.0608	P	2.4	18.4
7	☐	10.000	11.053	177605.45	0.3408	P	2.0	10.5
8	☐	50.000	51.101	787797.39	1.4770	P	2.5	2.2
9	☐	100.000	98.389	1547827.78	2.8187	A	0.3	-1.6
10	☐	1000.000	1000.095	17228366.21	28.4023	A	1.2	0.0
11	☐			20313.70	0.0338	P	0.9	

y = 0.0284 * x + 0.0272
R = 1.0000
DL = 0.1458 ug/l
BEC = 0.9575 ug/l

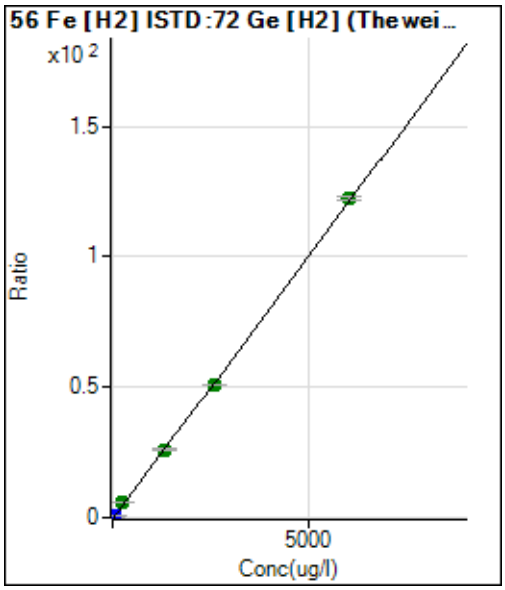
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	247.95	0.0025	P	9.5	
2	☐	0.025	0.025	293.94	0.0030	P	3.6	2.0
3	☐	0.050	0.056	350.93	0.0036	P	4.5	11.1
4	☐	0.100	0.112	447.92	0.0047	P	3.7	12.1
5	☐	0.500	0.541	1245.80	0.0129	P	2.2	8.2
6	☐	1.000	1.135	2341.39	0.0243	P	1.4	13.5
7	☐	10.000	10.647	20015.25	0.2064	P	0.8	6.5
8	☐	50.000	50.814	95503.78	0.9756	P	1.5	1.6
9	☐	100.000	97.051	194882.72	1.8610	P	2.2	-2.9
10	☐	1000.000	1000.248	2231928.00	19.1569	A	1.9	0.0
11	☐			539.57	0.0050	P	1.2	

y = 0.0191 * x + 0.0025
R = 1.0000
DL = 0.03742 ug/l
BEC = 0.1314 ug/l

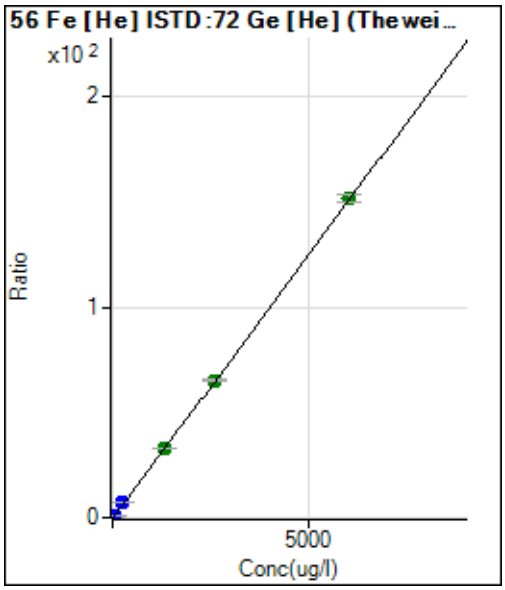
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	19370.56	0.0429	P	2.0	
2	☐	0.650	0.892	27337.79	0.0610	P	1.2	37.3
3	☐	1.300	1.509	32904.77	0.0735	P	3.7	16.1
4	☐	2.600	3.070	46859.86	0.1052	P	0.7	18.1
5	☐	13.000	14.214	146812.21	0.3311	P	1.7	9.3
6	☐	26.000	29.501	285297.80	0.6409	P	1.2	13.5
7	☐	260.000	279.505	2536925.04	5.7084	A	2.2	7.5
8	☐	1300.000	1280.955	11906879.48	26.0076	A	2.3	-1.5
9	☐	2600.000	2513.469	24153215.07	50.9905	A	0.5	-3.3
10	☐	6000.000	6040.760	62714577.37	122.487	A	1.0	0.7
11	☐			29888.62	0.0614	P	1.4	

y = 0.0203 * x + 0.0429
R = 0.9999
DL = 0.1242 ug/l
BEC = 2.119 ug/l

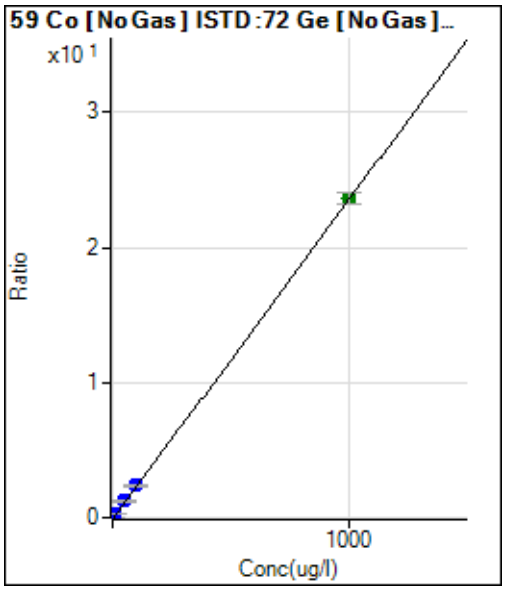
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16123.39	0.1636	P	3.0	
2	☐	0.650	0.750	17858.81	0.1826	P	1.2	15.3
3	☐	1.300	1.445	19614.42	0.2001	P	0.8	11.1
4	☐	2.600	3.086	23206.60	0.2415	P	2.1	18.7
5	☐	13.000	13.731	49360.34	0.5103	P	2.6	5.6
6	☐	26.000	29.248	87048.42	0.9019	P	1.7	12.5
7	☐	260.000	276.654	692911.45	7.1471	P	3.2	6.4
8	☐	1300.000	1296.933	3221398.84	32.9017	A	0.4	-0.2
9	☐	2600.000	2580.070	6839534.50	65.2915	A	0.8	-0.8
10	☐	6000.000	6008.563	17689179.81	151.835	A	2.2	0.1
11	☐			19487.47	0.1815	P	0.7	

y = 0.0252 * x + 0.1636
R = 1.0000
DL = 0.5931 ug/l
BEC = 6.483 ug/l

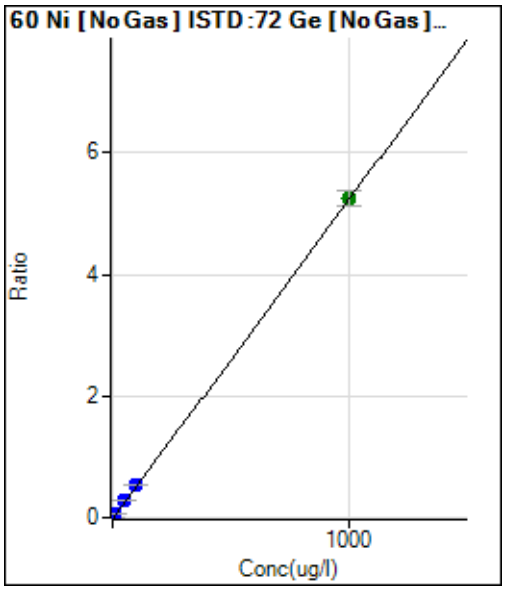
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	432.49	0.0008	P	1.0	
2	☐	0.025	0.026	758.52	0.0014	P	3.6	3.8
3	☐	0.050	0.059	1157.75	0.0022	P	14.3	18.2
4	☐	0.100	0.116	1846.47	0.0036	P	14.0	16.2
5	☐	0.500	0.546	7081.03	0.0138	P	4.3	9.3
6	☐	1.000	1.181	14761.56	0.0288	P	4.0	18.1
7	☐	10.000	11.188	138338.54	0.2654	P	2.0	11.9
8	☐	50.000	51.714	652772.25	1.2239	P	2.3	3.4
9	☐	100.000	99.445	1291746.32	2.3527	P	1.8	-0.6
10	☐	1000.000	999.958	14335846.28	23.6499	A	3.4	0.0
11	☐			2438.71	0.0041	P	14.6	

y = 0.0237 * x + 8.2917E-004
R = 1.0000
DL = 0.001034 ug/l
BEC = 0.03506 ug/l

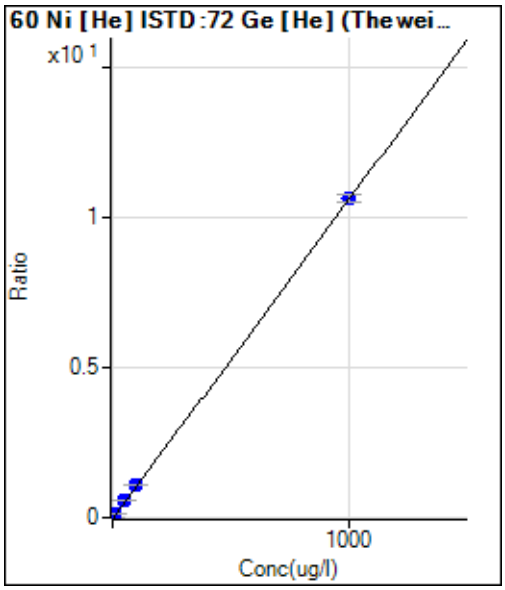
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	515.65	0.0010	P	8.4	
2	☐	0.025	0.034	615.46	0.0012	P	14.9	37.7
3	☐	0.050	0.040	622.11	0.0012	P	10.6	-20.7
4	☐	0.100	0.094	765.17	0.0015	P	12.5	-6.2
5	☐	0.500	0.512	1893.04	0.0037	P	7.4	2.4
6	☐	1.000	1.157	3626.61	0.0071	P	5.3	15.7
7	☐	10.000	11.279	31384.77	0.0602	P	2.6	12.8
8	☐	50.000	51.961	146082.01	0.2739	P	2.1	3.9
9	☐	100.000	101.415	292847.95	0.5336	P	4.3	1.4
10	☐	1000.000	999.748	3181837.48	5.2517	A	5.0	0.0
11	☐			1314.12	0.0022	P	13.7	

y = 0.0053 * x + 9.8853E-004
R = 1.0000
DL = 0.0473 ug/l
BEC = 0.1882 ug/l

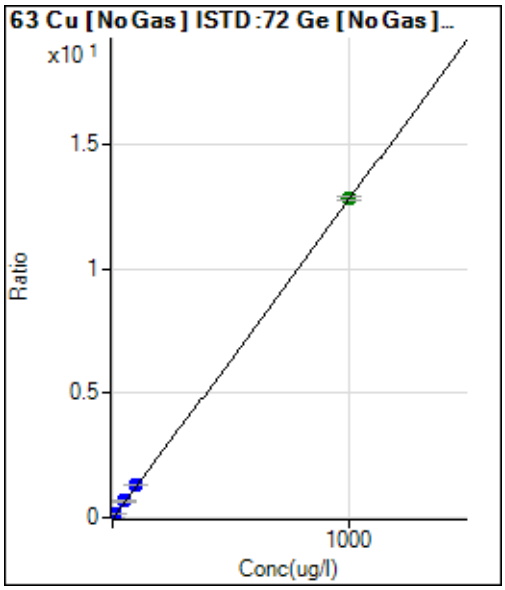
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	312.23	0.0032	P	7.4	
2	☐	0.025	0.048	360.01	0.0037	P	2.2	91.0
3	☐	0.050	0.041	353.34	0.0036	P	11.3	-18.2
4	☐	0.100	0.127	434.45	0.0045	P	11.0	27.0
5	☐	0.500	0.572	897.81	0.0093	P	6.9	14.4
6	☐	1.000	1.223	1564.53	0.0162	P	5.9	22.3
7	☐	10.000	11.883	12593.23	0.1299	P	2.5	18.8
8	☐	50.000	54.627	57339.96	0.5857	P	1.1	9.3
9	☐	100.000	102.288	114555.74	1.0940	P	2.4	2.3
10	☐	1000.000	999.521	1242162.72	10.6619	P	2.1	0.0
11	☐			485.57	0.0045	P	7.7	

y = 0.0107 * x + 0.0032
R = 1.0000
DL = 0.06617 ug/l
BEC = 0.2974 ug/l

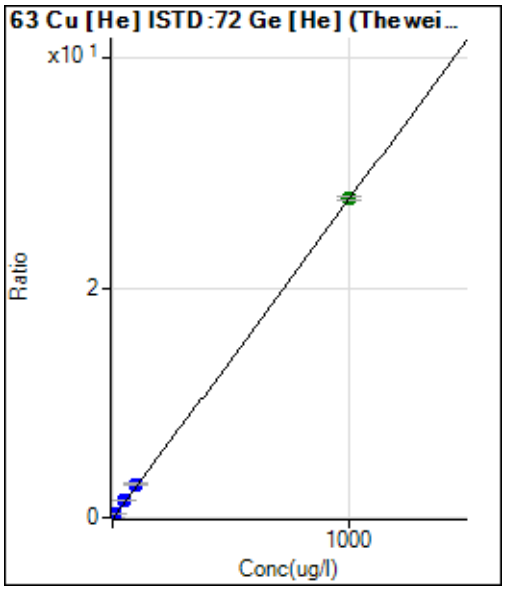
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1340.61	0.0026	P	3.9	
2	☐	0.025	0.043	1645.42	0.0031	P	1.8	73.6
3	☐	0.050	0.049	1664.10	0.0032	P	3.4	-1.6
4	☐	0.100	0.112	2071.65	0.0040	P	3.7	11.9
5	☐	0.500	0.574	5128.96	0.0100	P	2.9	14.9
6	☐	1.000	1.208	9301.37	0.0181	P	3.6	20.8
7	☐	10.000	11.305	77142.46	0.1480	P	0.5	13.1
8	☐	50.000	51.539	355046.44	0.6657	P	2.3	3.1
9	☐	100.000	101.184	716107.74	1.3044	P	1.9	1.2
10	☐	1000.000	999.791	7805408.90	12.8658	A	1.0	0.0
11	☐			3392.43	0.0056	P	2.5	

y = 0.0129 * x + 0.0026
R = 1.0000
DL = 0.02355 ug/l
BEC = 0.1999 ug/l

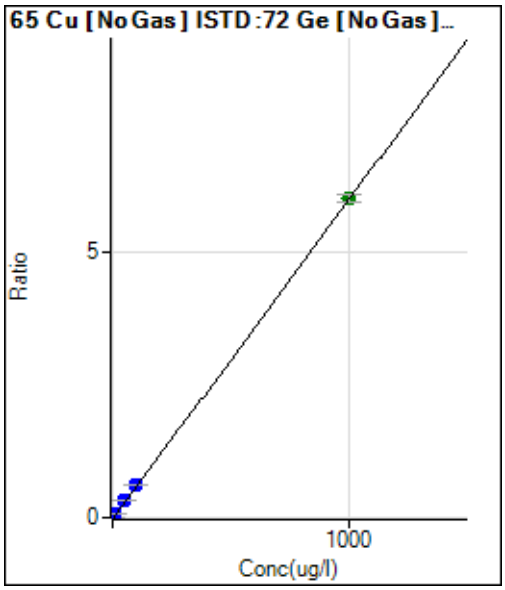
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	543.90	0.0055	P	2.5	
2	☐	0.025	0.067	723.87	0.0074	P	0.1	170.0
3	☐	0.050	0.064	714.88	0.0073	P	4.6	27.6
4	☐	0.100	0.117	842.52	0.0088	P	3.3	16.5
5	☐	0.500	0.600	2149.06	0.0222	P	2.1	20.0
6	☐	1.000	1.244	3874.41	0.0401	P	1.4	24.4
7	☐	10.000	12.009	32931.28	0.3396	P	1.1	20.1
8	☐	50.000	55.466	151591.26	1.5486	P	1.8	10.9
9	☐	100.000	104.634	305437.68	2.9164	P	1.9	4.6
10	☐	1000.000	999.243	3239582.64	27.8044	A	1.6	-0.1
11	☐			1162.48	0.0108	P	2.8	

y = 0.0278 * x + 0.0055
R = 1.0000
DL = 0.0151 ug/l
BEC = 0.1985 ug/l

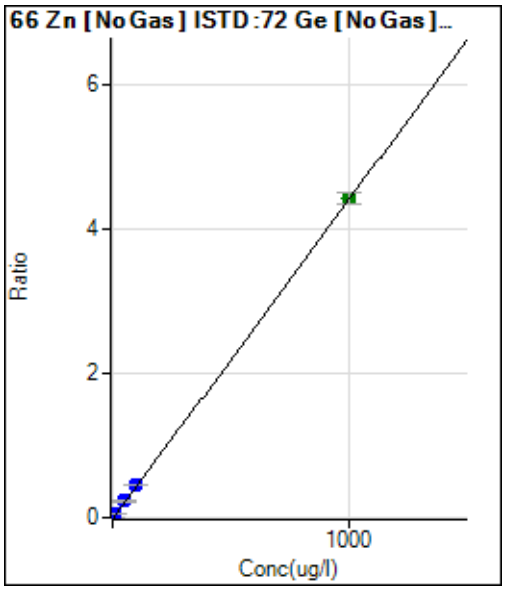
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	559.57	0.0011	P	2.7	
2	☐	0.025	0.044	702.97	0.0013	P	8.0	76.0
3	☐	0.050	0.050	714.31	0.0014	P	4.5	0.8
4	☐	0.100	0.097	853.71	0.0017	P	6.1	-3.3
5	☐	0.500	0.553	2259.09	0.0044	P	5.1	10.5
6	☐	1.000	1.207	4271.01	0.0083	P	3.4	20.7
7	☐	10.000	11.402	36201.83	0.0695	P	0.2	14.0
8	☐	50.000	52.544	168683.62	0.3163	P	1.1	5.1
9	☐	100.000	100.662	332167.62	0.6049	P	1.1	0.7
10	☐	1000.000	999.792	3637137.65	5.9983	A	2.4	0.0
11	☐			1331.93	0.0022	P	3.2	

y = 0.0060 * x + 0.0011
R = 1.0000
DL = 0.01432 ug/l
BEC = 0.1789 ug/l

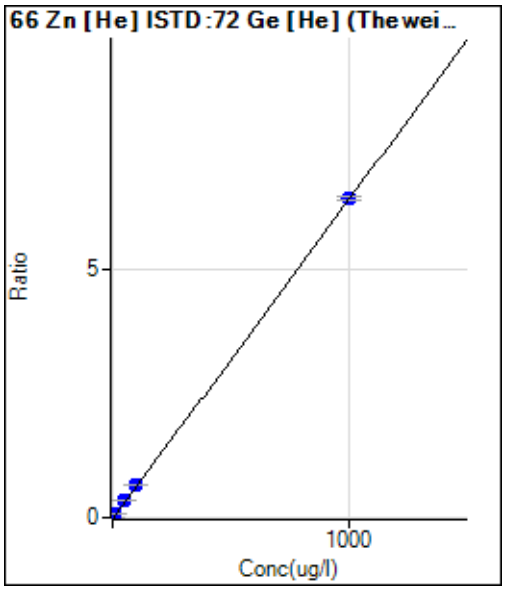
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	627.12	0.0012	P	17.3	
2	☐			2327.55	0.0044	P	13.3	
3	☐	0.050	0.084	816.92	0.0016	P	13.8	67.1
4	☐	0.100	0.111	873.48	0.0017	P	10.8	10.7
5	☐	0.500	0.802	2447.08	0.0048	P	5.2	60.4
6	☐	1.000	1.336	3654.85	0.0071	P	9.1	33.6
7	☐	10.000	12.306	29027.59	0.0557	P	1.0	23.1
8	☐	50.000	51.377	121997.52	0.2287	P	3.2	2.8
9	☐	100.000	102.229	249203.11	0.4539	P	2.1	2.2
10	☐	1000.000	999.685	2684493.56	4.4285	A	4.1	0.0
11	☐			1332.31	0.0022	P	12.4	

y = 0.0044 * x + 0.0012
R = 1.0000
DL = 0.1405 ug/l
BEC = 0.2713 ug/l

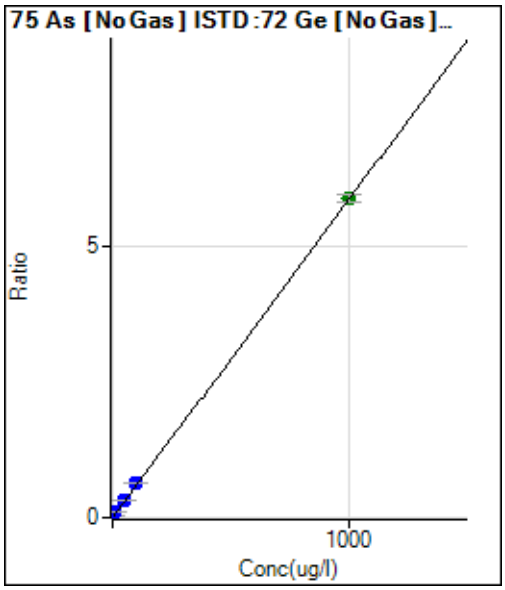
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	130.00	0.0013	P	7.9	
2	☐			583.35	0.0060	P	2.9	
3	☐	0.050	0.103	194.45	0.0020	P	10.5	106.5
4	☐	0.100	0.226	266.67	0.0028	P	18.0	126.4
5	☐	0.500	0.858	660.02	0.0068	P	2.7	71.5
6	☐	1.000	1.407	998.93	0.0103	P	3.8	40.7
7	☐	10.000	12.198	7723.20	0.0796	P	3.5	22.0
8	☐	50.000	54.316	34255.88	0.3499	P	1.8	8.6
9	☐	100.000	101.519	68357.41	0.6529	P	3.7	1.5
10	☐	1000.000	999.610	747852.81	6.4173	P	1.2	0.0
11	☐			374.45	0.0035	P	1.5	

y = 0.0064 * x + 0.0013
R = 1.0000
DL = 0.0488 ug/l
BEC = 0.2053 ug/l

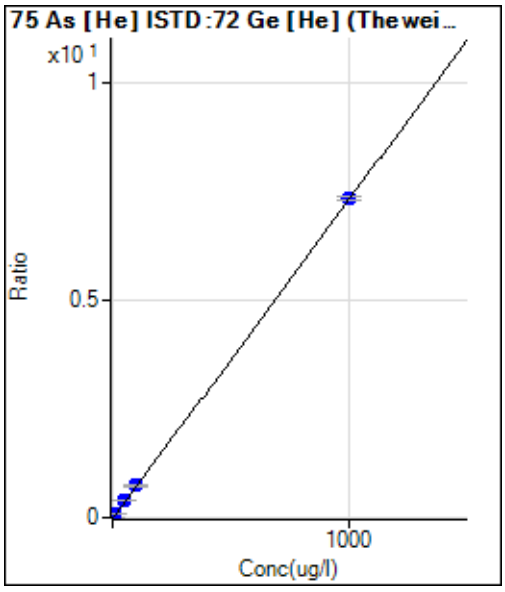
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	15102.65	0.0289	P	51.6	
2	☐	0.025	-0.529	13544.90	0.0258	P	22.6	-2217.3
3	☐	0.050	-0.021	14901.95	0.0287	P	24.0	-141.9
4	☐	0.100	0.414	16142.39	0.0313	P	38.4	314.1
5	☐	0.500	2.122	21256.61	0.0413	P	24.3	324.3
6	☐	1.000	2.285	21683.64	0.0422	P	31.1	128.5
7	☐	10.000	11.846	51108.85	0.0981	P	2.5	18.5
8	☐	50.000	51.392	175566.20	0.3292	P	0.6	2.8
9	☐	100.000	105.092	352982.78	0.6429	P	1.8	5.1
10	☐	1000.000	999.401	3558093.66	5.8687	A	2.8	-0.1
11	☐			14082.99	0.0235	P	28.1	

y = 0.0058 * x + 0.0289
R = 1.0000
DL = 7.641 ug/l
BEC = 4.938 ug/l

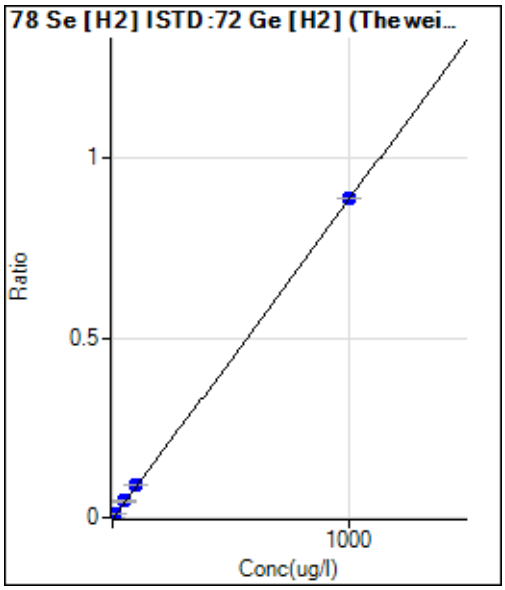
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	802.74	0.0081	P	1.6	
2	☐	0.025	0.058	838.81	0.0086	P	2.4	132.7
3	☐	0.050	0.039	826.81	0.0084	P	0.7	-21.9
4	☐	0.100	0.125	870.61	0.0091	P	3.1	24.6
5	☐	0.500	0.526	1161.49	0.0120	P	0.9	5.2
6	☐	1.000	1.107	1569.72	0.0163	P	0.9	10.7
7	☐	10.000	10.645	8353.82	0.0862	P	1.9	6.4
8	☐	50.000	51.609	37821.38	0.3864	P	1.5	3.2
9	☐	100.000	99.119	76914.20	0.7345	P	2.5	-0.9
10	☐	1000.000	1000.001	854845.49	7.3364	P	1.1	0.0
11	☐			1175.22	0.0109	P	0.9	

y = 0.0073 * x + 0.0081
R = 1.0000
DL = 0.05477 ug/l
BEC = 1.112 ug/l

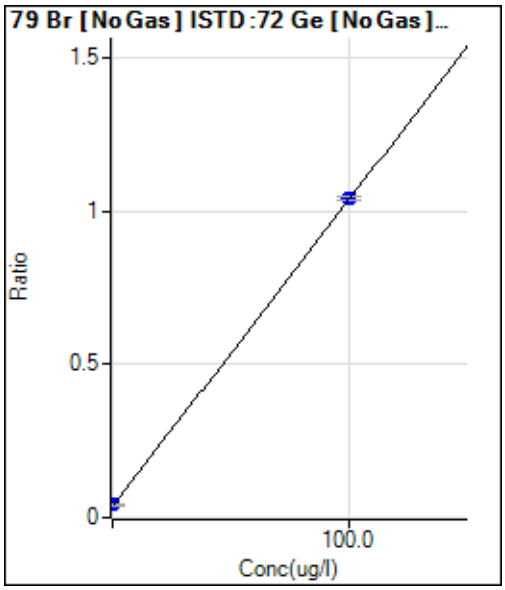
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	40.33	0.0001	P	11.2	
2	☐	0.025	0.031	52.22	0.0001	P	2.8	22.2
3	☐	0.050	0.057	62.55	0.0001	P	5.2	13.2
4	☐	0.100	0.123	88.56	0.0002	P	3.4	22.9
5	☐	0.500	0.524	246.34	0.0006	P	1.3	4.8
6	☐	1.000	1.154	496.68	0.0011	P	2.6	15.4
7	☐	10.000	10.922	4356.76	0.0098	P	1.8	9.2
8	☐	50.000	51.390	20965.06	0.0458	P	1.3	2.8
9	☐	100.000	100.350	42314.64	0.0893	P	0.6	0.3
10	☐	1000.000	999.886	455323.57	0.8893	P	0.5	0.0
11	☐			177.67	0.0004	P	13.6	

y = 8.8934E-004 * x + 8.9439E-005
R = 1.0000
DL = 0.03391 ug/l
BEC = 0.1006 ug/l

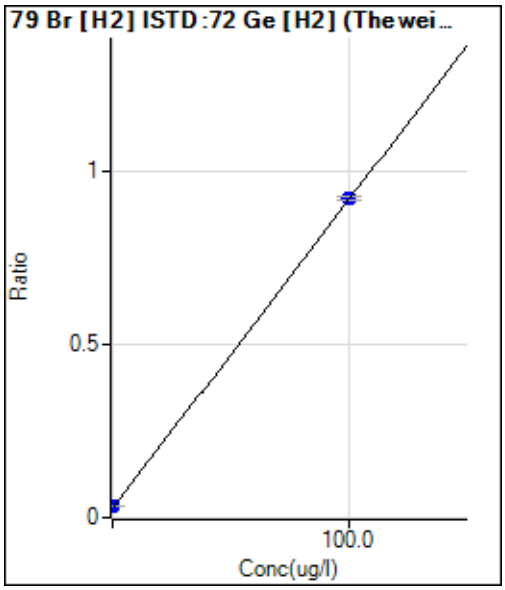
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22173.13	0.0425	P	8.1	
2	☐			65851.76	0.1253	P	2.1	
3	☐			63195.97	0.1217	P	1.1	
4	☐			65544.72	0.1269	P	1.7	
5	☐			56601.44	0.1099	P	0.6	
6	☐			63723.57	0.1240	P	1.9	
7	☐			62296.83	0.1195	P	2.5	
8	☐			22009.80	0.0413	P	4.8	
9	☐			58562.45	0.1066	P	2.3	
10	☐			61117.75	0.1009	P	5.7	
11	☐	100.000	100.000	626854.83	1.0430	P	1.5	0.0

y = 0.0100 * x + 0.0425
R = 1.0000
DL = 1.036 ug/l
BEC = 4.253 ug/l

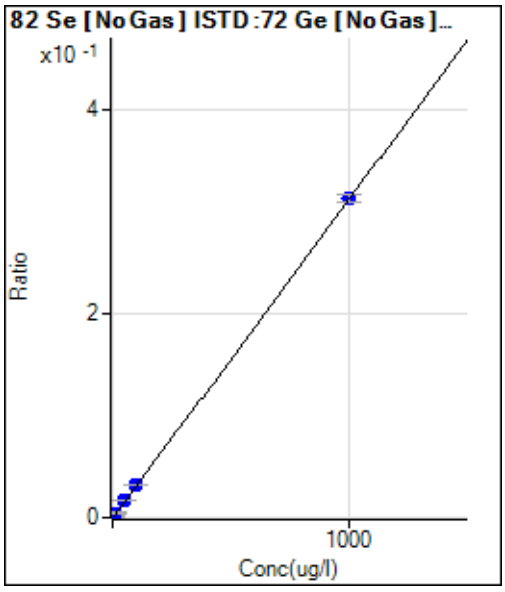
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14335.39	0.0318	P	1.8	
2	☐			47156.71	0.1053	P	1.6	
3	☐			46308.85	0.1035	P	1.6	
4	☐			48988.75	0.1100	P	3.5	
5	☐			42721.64	0.0963	P	1.1	
6	☐			46609.12	0.1047	P	0.1	
7	☐			45961.63	0.1034	P	2.3	
8	☐			14315.44	0.0313	P	2.3	
9	☐			42941.73	0.0907	P	2.6	
10	☐			55779.93	0.1089	P	1.9	
11	☐	100.000	100.000	448682.22	0.9216	P	1.3	0.0

y = 0.0089 * x + 0.0318
R = 1.0000
DL = 0.1978 ug/l
BEC = 3.571 ug/l

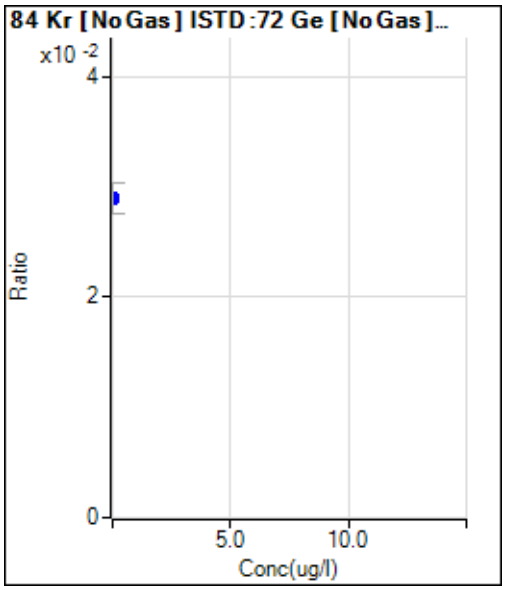
Weight: 1/y
Min Conc: <None>



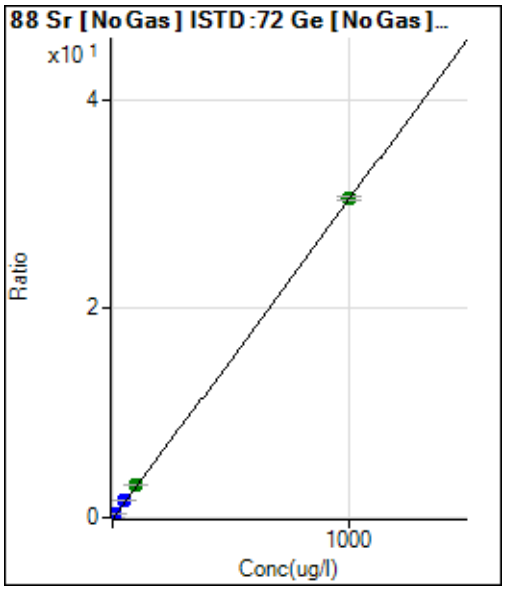
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	529.28	0.0010	P	11.5	
2	☐	0.025	-0.410	466.88	0.0009	P	14.0	-1741.2
3	☐	0.050	0.982	687.55	0.0013	P	15.4	1864.7
4	☐	0.100	0.561	615.28	0.0012	P	16.7	461.1
5	☐	0.500	0.624	623.68	0.0012	P	21.4	24.9
6	☐	1.000	1.518	763.81	0.0015	P	13.8	51.8
7	☐	10.000	11.771	2445.54	0.0047	P	7.5	17.7
8	☐	50.000	53.052	9385.86	0.0176	P	0.7	6.1
9	☐	100.000	100.985	17887.26	0.0326	P	1.2	1.0
10	☐	1000.000	999.731	190089.31	0.3135	P	2.2	0.0
11	☐			934.49	0.0016	P	14.9	

y = 3.1255E-004 * x + 0.0010
R = 1.0000
DL = 1.119 ug/l
BEC = 3.249 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000		15104.67	0.0289	P	9.6	
2	☐			14771.71	0.0281	P	10.1	
3	☐			14884.88	0.0287	P	2.4	
4	☐			14958.18	0.0290	P	4.1	
5	☐			14944.88	0.0290	P	5.3	
6	☐			14761.85	0.0288	P	7.4	
7	☐			15784.08	0.0303	P	6.4	
8	☐			20280.77	0.0380	P	5.3	
9	☐			26688.56	0.0486	P	9.4	
10	☐			137033.35	0.2259	P	1.5	
11	☐			20231.03	0.0337	P	21.3	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	169.67	0.0003	P	19.3	
2	☐	0.025	0.035	731.90	0.0014	P	11.3	39.3
3	☐	0.050	0.056	1061.27	0.0020	P	9.4	12.2
4	☐	0.100	0.125	2142.59	0.0041	P	8.9	25.0
5	☐	0.500	0.574	9201.40	0.0179	P	3.3	14.7
6	☐	1.000	1.195	18941.69	0.0369	P	3.6	19.5
7	☐	10.000	11.248	179490.98	0.3444	P	1.4	12.5
8	☐	50.000	51.958	847882.28	1.5897	P	1.9	3.9
9	☐	100.000	100.416	1687227.56	3.0719	A	1.3	0.4
10	☐	1000.000	999.848	18553573.33	30.5845	A	1.1	0.0
11	☐			2794.75	0.0047	P	2.9	

y = 0.0306 * x + 3.2601E-004

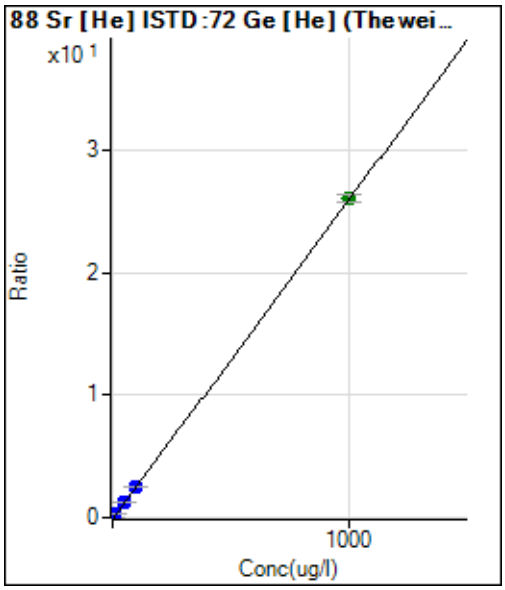
R = 1.0000

DL = 0.006176 ug/l

BEC = 0.01066 ug/l

Weight: 1/y

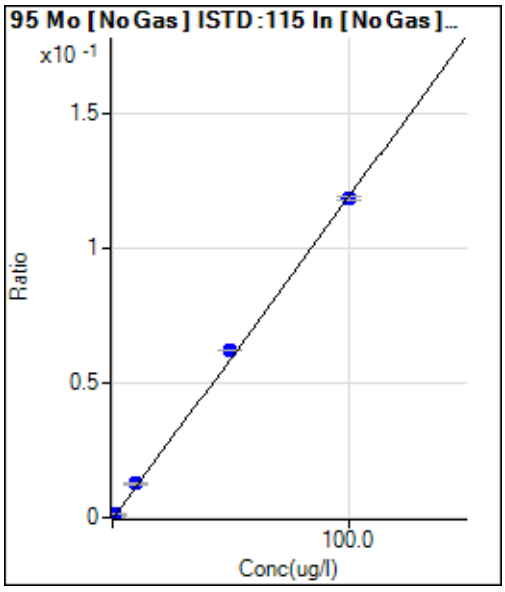
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	104.44	0.0011	P	23.8	
2	☐	0.025	0.042	211.12	0.0022	P	14.7	67.8
3	☐	0.050	0.054	241.11	0.0025	P	13.6	7.2
4	☐	0.100	0.120	402.23	0.0042	P	10.6	19.9
5	☐	0.500	0.528	1433.42	0.0148	P	8.0	5.5
6	☐	1.000	1.099	2869.20	0.0297	P	2.1	9.9
7	☐	10.000	10.640	27018.83	0.2786	P	0.9	6.4
8	☐	50.000	50.482	129029.44	1.3179	P	1.3	1.0
9	☐	100.000	96.186	262891.70	2.5101	P	2.1	-3.8
10	☐	1000.000	1000.351	3039937.66	26.0954	A	2.7	0.0
11	☐			437.79	0.0041	P	9.0	

y = 0.0261 * x + 0.0011
R = 1.0000
DL = 0.02907 ug/l
BEC = 0.04073 ug/l

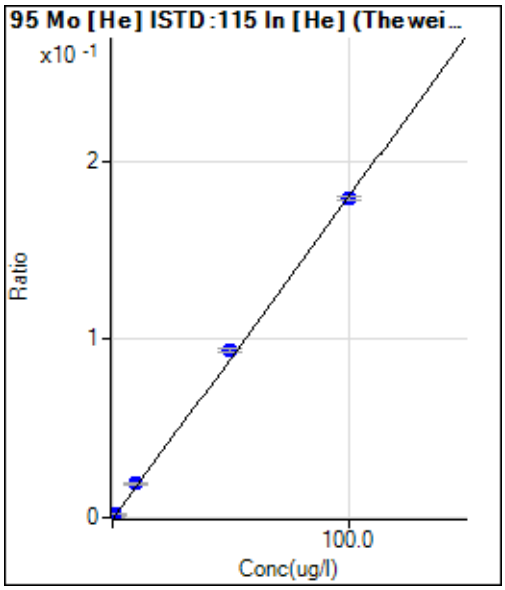
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	42.22	0.0000	P	55.5	
2	☐	0.025	0.028	127.78	0.0000	P	5.6	12.2
3	☐	0.050	0.049	190.00	0.0001	P	18.3	-2.7
4	☐	0.100	0.102	348.89	0.0001	P	1.2	1.9
5	☐	0.500	0.506	1595.66	0.0006	P	2.4	1.3
6	☐	1.000	1.071	3285.96	0.0013	P	2.2	7.1
7	☐	10.000	10.495	31721.88	0.0126	P	4.0	4.9
8	☐	50.000	51.824	154859.77	0.0620	P	0.6	3.6
9	☐	100.000	99.038	306251.84	0.1186	P	0.7	-1.0
10	☐			326.67	0.0001	P	10.7	
11	☐			91.11	0.0000	P	5.5	

y = 0.0012 * x + 1.6036E-005
R = 0.9998
DL = 0.02229 ug/l
BEC = 0.0134 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	16.67	0.0000	P	72.3	
2	☐	0.025	0.028	55.56	0.0001	P	20.8	10.2
3	☐	0.050	0.037	67.78	0.0001	P	35.6	-26.4
4	☐	0.100	0.125	191.11	0.0002	P	1.9	25.3
5	☐	0.500	0.491	688.91	0.0009	P	3.5	-1.9
6	☐	1.000	1.112	1551.21	0.0020	P	4.0	11.2
7	☐	10.000	10.481	14678.73	0.0190	P	5.4	4.8
8	☐	50.000	51.898	72322.68	0.0941	P	1.9	3.8
9	☐	100.000	99.002	144694.92	0.1794	P	1.2	-1.0
10	☐			130.00	0.0001	P	20.9	
11	☐			27.78	0.0000	P	36.3	

y = 0.0018 * x + 2.1316E-005

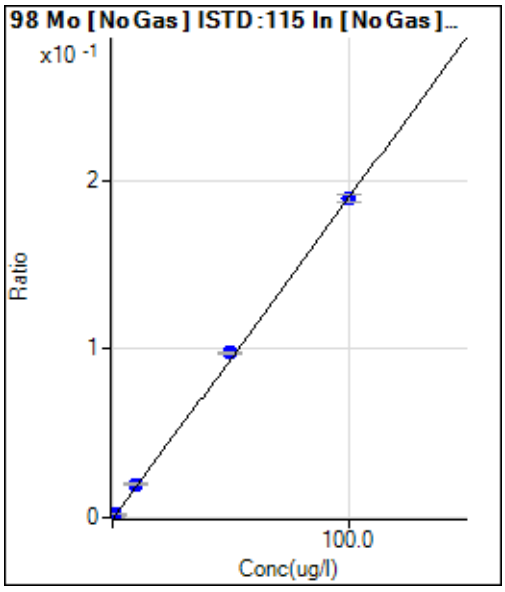
R = 0.9998

DL = 0.02552 ug/l

BEC = 0.01176 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	41.39	0.0000	P	30.4	
2	☐	0.025	0.028	179.03	0.0001	P	15.5	12.7
3	☐	0.050	0.046	266.33	0.0001	P	1.9	-7.6
4	☐	0.100	0.106	550.29	0.0002	P	4.2	5.8
5	☐	0.500	0.500	2486.42	0.0010	P	5.0	0.0
6	☐	1.000	1.077	5243.02	0.0021	P	2.3	7.7
7	☐	10.000	10.388	50045.61	0.0198	P	3.3	3.9
8	☐	50.000	51.255	244181.92	0.0978	P	1.6	2.5
9	☐	100.000	99.333	489604.47	0.1896	P	2.2	-0.7
10	☐			753.57	0.0003	P	3.6	
11	☐			87.29	0.0000	P	13.0	

y = 0.0019 * x + 1.5724E-005

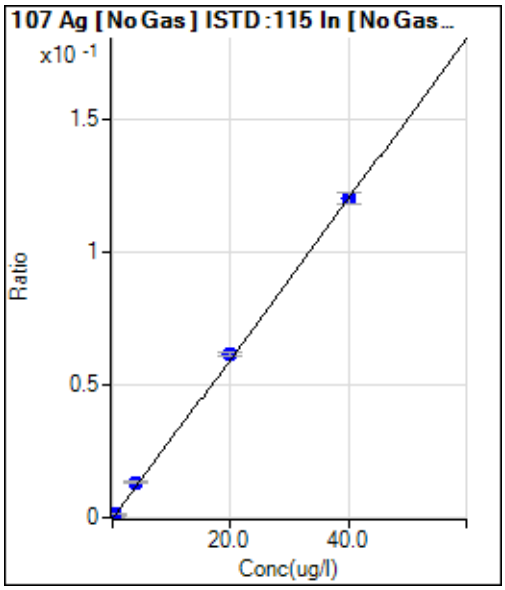
R = 0.9999

DL = 0.007511 ug/l

BEC = 0.008239 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	546.90	0.0002	P	4.8	
2	☐	0.010	0.022	702.97	0.0003	P	5.7	116.6
3	☐	0.020	0.029	760.33	0.0003	P	2.2	47.4
4	☐	0.040	0.056	951.09	0.0004	P	11.6	39.8
5	☐	0.200	0.219	2230.41	0.0009	P	4.4	9.5
6	☐	0.400	0.455	4010.19	0.0016	P	2.6	13.8
7	☐	4.000	4.333	33573.77	0.0133	P	2.4	8.3
8	☐	20.000	20.337	154024.36	0.0617	P	1.8	1.7
9	☐	40.000	39.798	311225.60	0.1206	P	3.2	-0.5
10	☐			3054399.31	1.0780	A	2.5	
11	☐			1958.26	0.0007	P	3.2	

y = 0.0030 * x + 2.0746E-004

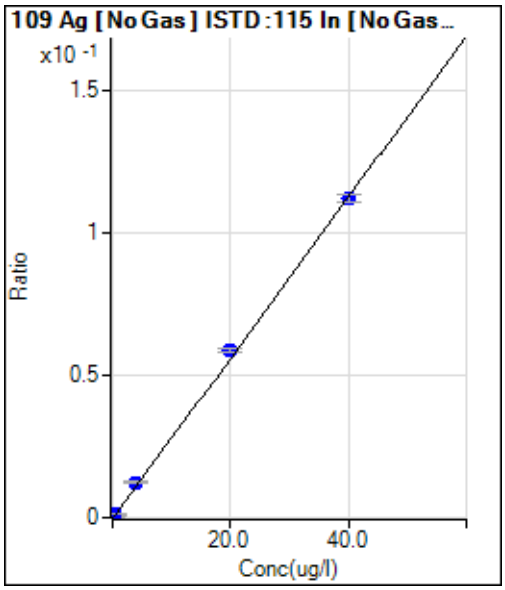
R = 0.9999

DL = 0.009833 ug/l

BEC = 0.0686 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	530.23	0.0002	P	5.5	
2	☐	0.010	0.013	616.26	0.0002	P	3.1	34.6
3	☐	0.020	0.024	690.96	0.0003	P	5.8	21.0
4	☐	0.040	0.050	865.04	0.0003	P	6.6	24.6
5	☐	0.200	0.215	2077.65	0.0008	P	1.2	7.6
6	☐	0.400	0.449	3729.33	0.0015	P	4.4	12.3
7	☐	4.000	4.311	31286.95	0.0124	P	2.0	7.8
8	☐	20.000	20.774	147281.17	0.0590	P	2.0	3.9
9	☐	40.000	39.581	289856.31	0.1122	P	2.7	-1.0
10	☐			2917651.45	1.0299	A	1.9	
11	☐			1803.51	0.0006	P	1.5	

y = 0.0028 * x + 2.0115E-004

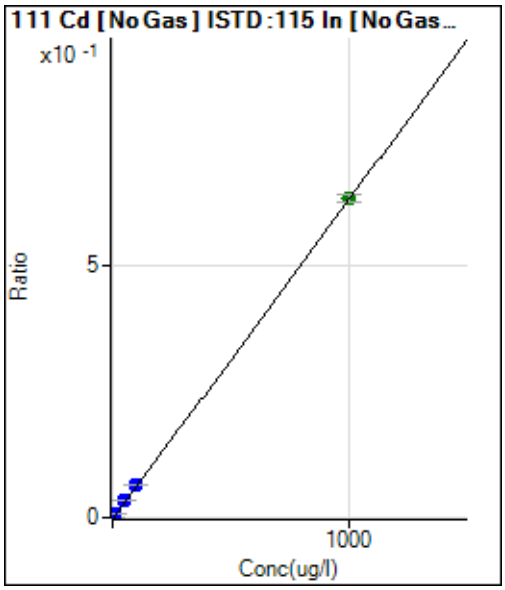
R = 0.9997

DL = 0.01163 ug/l

BEC = 0.07106 ug/l

Weight: 1/y

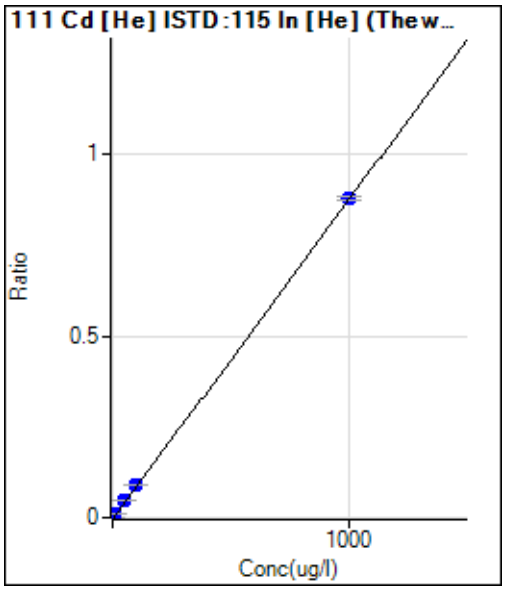
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-7.52	0.0000	P	-122.	
2	☐	0.025	0.044	64.53	0.0000	P	36.8	76.5
3	☐	0.050	0.062	93.32	0.0000	P	26.5	23.9
4	☐	0.100	0.137	211.77	0.0001	P	7.8	37.0
5	☐	0.500	0.533	857.36	0.0003	P	6.2	6.6
6	☐	1.000	1.150	1836.61	0.0007	P	5.0	15.0
7	☐	10.000	10.694	17063.01	0.0068	P	1.9	6.9
8	☐	50.000	52.169	82391.96	0.0330	P	1.3	4.3
9	☐	100.000	100.703	164553.75	0.0637	P	1.9	0.7
10	☐	1000.000	999.814	1792617.36	0.6327	A	1.8	0.0
11	☐			241.01	0.0001	P	15.8	

y = 6.3285E-004 * x - 2.8640E-006
R = 1.0000
DL = 0.01666 ug/l
BEC = -0.004525 ug/l

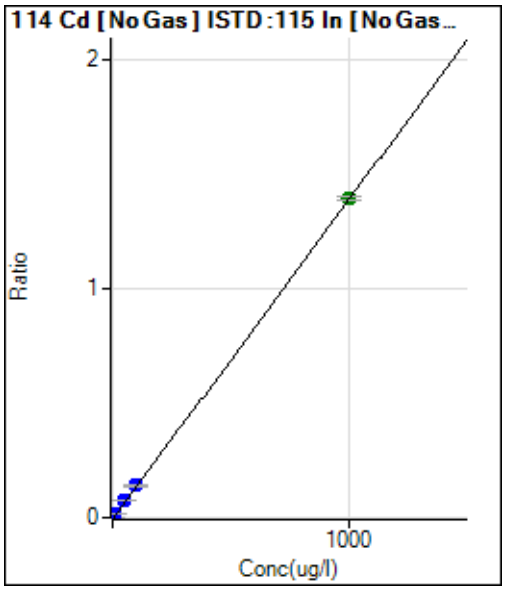
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	6.89	0.0000	P	10.3	
2	☐	0.025	0.033	29.67	0.0000	P	7.3	32.9
3	☐	0.050	0.056	44.56	0.0001	P	14.4	11.4
4	☐	0.100	0.122	89.55	0.0001	P	3.0	22.2
5	☐	0.500	0.559	379.12	0.0005	P	2.0	11.8
6	☐	1.000	1.160	785.13	0.0010	P	1.8	16.0
7	☐	10.000	11.083	7540.78	0.0098	P	1.9	10.8
8	☐	50.000	52.710	35683.02	0.0464	P	1.4	5.4
9	☐	100.000	101.034	71735.93	0.0890	P	1.6	1.0
10	☐	1000.000	999.750	772669.75	0.8801	P	1.1	0.0
11	☐			116.67	0.0001	P	3.7	

y = 8.8032E-004 * x + 8.8113E-006
R = 1.0000
DL = 0.003108 ug/l
BEC = 0.01001 ug/l

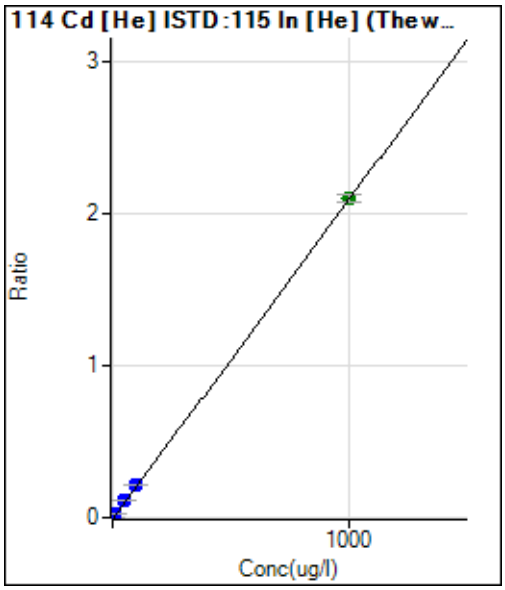
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	-33.13	0.0000	P	-34.3	
2	☐	0.025	0.034	89.43	0.0000	P	39.7	35.6
3	☐	0.050	0.058	174.87	0.0001	P	13.5	16.0
4	☐	0.100	0.107	346.64	0.0001	P	8.8	7.2
5	☐	0.500	0.528	1857.00	0.0007	P	2.5	5.6
6	☐	1.000	1.114	3902.59	0.0015	P	3.3	11.4
7	☐	10.000	10.600	37266.15	0.0148	P	1.7	6.0
8	☐	50.000	51.710	180001.57	0.0721	P	0.6	3.4
9	☐	100.000	100.133	360667.96	0.1397	P	2.6	0.1
10	☐	1000.000	999.895	3952634.96	1.3949	A	1.1	0.0
11	☐			516.32	0.0002	P	6.2	

y = 0.0014 * x - 1.2593E-005
R = 1.0000
DL = 0.009278 ug/l
BEC = -0.009027 ug/l

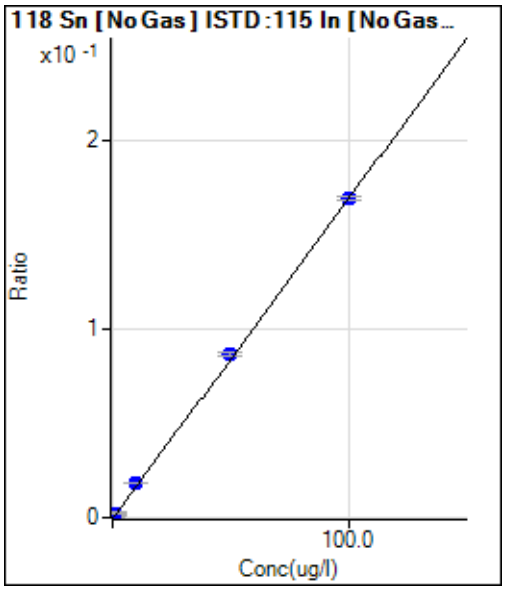
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14.57	0.0000	P	19.3	
2	☐	0.025	0.031	65.39	0.0001	P	10.3	24.2
3	☐	0.050	0.056	104.88	0.0001	P	8.7	11.9
4	☐	0.100	0.113	196.58	0.0003	P	3.2	12.6
5	☐	0.500	0.561	907.31	0.0012	P	0.8	12.3
6	☐	1.000	1.160	1872.29	0.0025	P	1.8	16.0
7	☐	10.000	11.225	18234.39	0.0236	P	1.6	12.2
8	☐	50.000	52.867	85453.72	0.1111	P	0.6	5.7
9	☐	100.000	101.511	172095.80	0.2134	P	1.5	1.5
10	☐	1000.000	999.693	1844494.19	2.1013	A	2.0	0.0
11	☐			236.28	0.0003	P	4.4	

y = 0.0021 * x + 1.8627E-005
R = 1.0000
DL = 0.00513 ug/l
BEC = 0.008862 ug/l

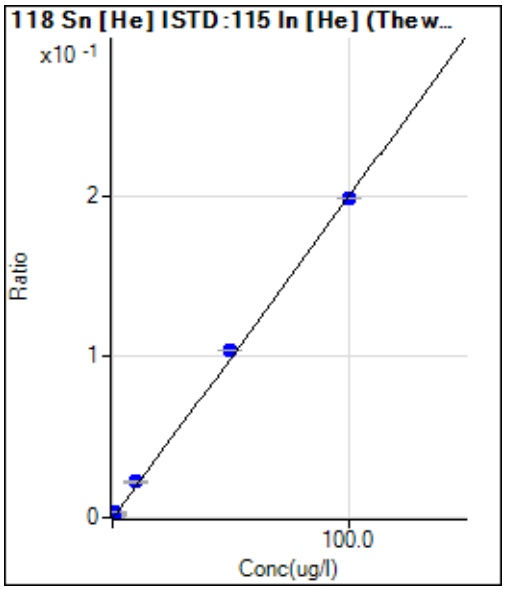
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	612.14	0.0002	P	10.2	
2	☐	0.025	0.156	1280.86	0.0005	P	5.2	522.4
3	☐	0.050	0.258	1723.36	0.0007	P	4.0	416.9
4	☐	0.100	0.346	2076.05	0.0008	P	3.4	245.7
5	☐	0.500	0.735	3806.32	0.0015	P	7.7	47.1
6	☐	1.000	1.362	6462.02	0.0026	P	3.2	36.2
7	☐	10.000	10.693	46527.94	0.0184	P	0.4	6.9
8	☐	50.000	50.800	216520.75	0.0868	P	2.4	1.6
9	☐	100.000	99.526	438476.70	0.1697	P	1.1	-0.5
10	☐			1992.86	0.0007	P	6.5	
11	☐			27512.40	0.0097	P	1.0	

y = 0.0017 * x + 2.3233E-004
R = 1.0000
DL = 0.04166 ug/l
BEC = 0.1364 ug/l

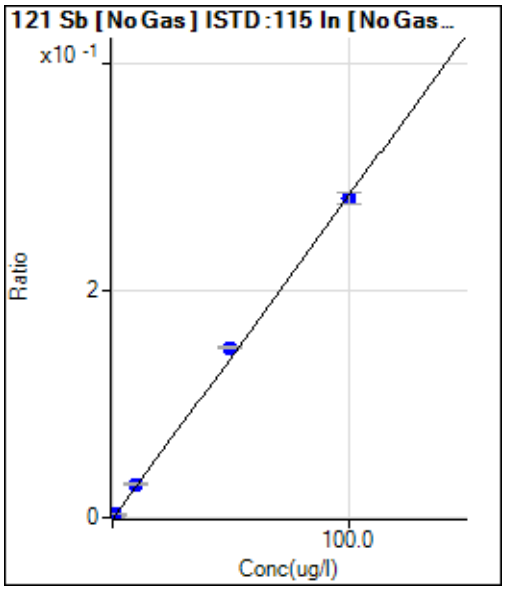
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	230.00	0.0003	P	15.7	
2	☐	0.025	0.155	471.12	0.0006	P	8.3	520.3
3	☐	0.050	0.307	700.02	0.0009	P	8.4	514.0
4	☐	0.100	0.353	768.91	0.0010	P	18.0	252.6
5	☐	0.500	0.742	1347.85	0.0018	P	1.8	48.4
6	☐	1.000	1.453	2442.45	0.0032	P	0.8	45.3
7	☐	10.000	11.016	17271.79	0.0224	P	3.4	10.2
8	☐	50.000	51.924	80233.52	0.1043	P	0.5	3.8
9	☐	100.000	98.930	160144.37	0.1985	P	0.1	-1.1
10	☐			728.91	0.0008	P	7.7	
11	☐			9985.81	0.0121	P	1.5	

y = 0.0020 * x + 2.9396E-004
R = 0.9997
DL = 0.069 ug/l
BEC = 0.1467 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	267.36	0.0001	P	4.5	
2	☐	0.025	0.035	521.06	0.0002	P	8.1	41.8
3	☐	0.050	0.042	569.74	0.0002	P	2.5	-15.1
4	☐	0.100	0.099	968.47	0.0004	P	3.6	-1.1
5	☐	0.500	0.482	3779.89	0.0015	P	1.3	-3.6
6	☐	1.000	1.052	7840.64	0.0031	P	1.9	5.2
7	☐	10.000	10.268	73992.70	0.0293	P	2.7	2.7
8	☐	50.000	52.554	373661.57	0.1497	P	1.7	5.1
9	☐	100.000	98.696	725719.74	0.2811	P	3.0	-1.3
10	☐			1872.98	0.0007	P	3.4	
11	☐			584.74	0.0002	P	3.1	

y = 0.0028 * x + 1.0142E-004

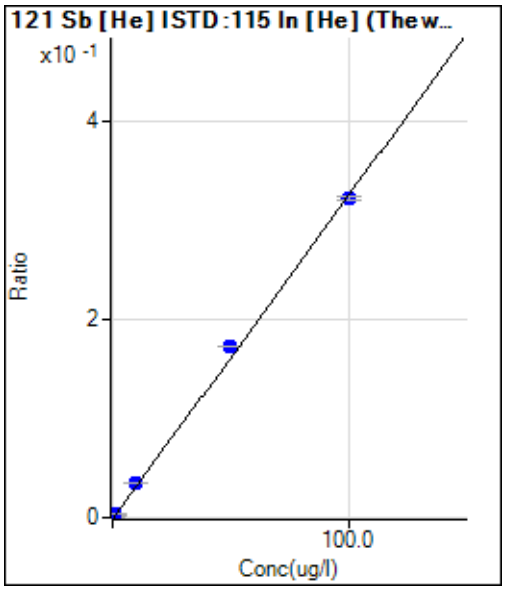
R = 0.9996

DL = 0.00484 ug/l

BEC = 0.03563 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	94.68	0.0001	P	11.4	
2	☐	0.025	0.035	183.02	0.0002	P	5.1	39.2
3	☐	0.050	0.045	207.02	0.0003	P	10.8	-9.6
4	☐	0.100	0.101	346.71	0.0005	P	8.1	0.7
5	☐	0.500	0.517	1370.54	0.0018	P	2.4	3.3
6	☐	1.000	1.073	2767.89	0.0036	P	1.5	7.3
7	☐	10.000	10.481	26571.31	0.0344	P	1.9	4.8
8	☐	50.000	52.779	132849.09	0.1728	P	0.9	5.6
9	☐	100.000	98.562	260144.96	0.3226	P	1.4	-1.4
10	☐			574.07	0.0007	P	5.4	
11	☐			202.02	0.0002	P	6.1	

y = 0.0033 * x + 1.2101E-004

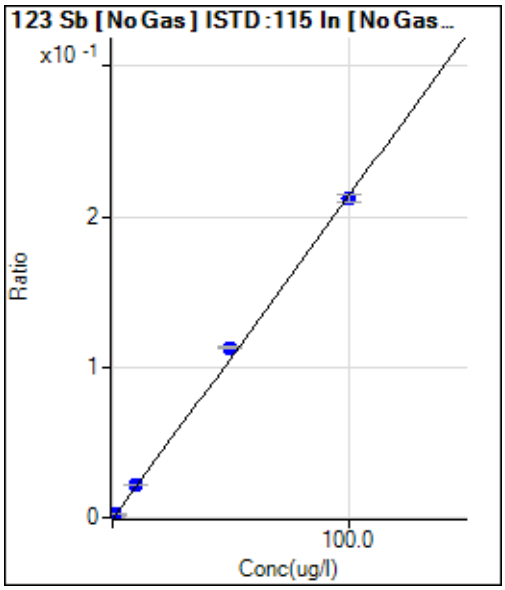
R = 0.9995

DL = 0.01261 ug/l

BEC = 0.03699 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	210.35	0.0001	P	6.9	
2	☐	0.025	0.040	424.72	0.0002	P	5.2	58.5
3	☐	0.050	0.035	397.38	0.0002	P	4.2	-29.9
4	☐	0.100	0.092	699.09	0.0003	P	8.1	-8.3
5	☐	0.500	0.481	2850.91	0.0011	P	1.5	-3.9
6	☐	1.000	1.033	5823.13	0.0023	P	1.8	3.3
7	☐	10.000	10.244	55698.62	0.0221	P	1.9	2.4
8	☐	50.000	52.468	281460.69	0.1128	P	1.1	4.9
9	☐	100.000	98.741	548005.74	0.2122	P	2.3	-1.3
10	☐			1495.23	0.0005	P	5.0	
11	☐			444.39	0.0002	P	9.9	

y = 0.0021 * x + 7.9787E-005

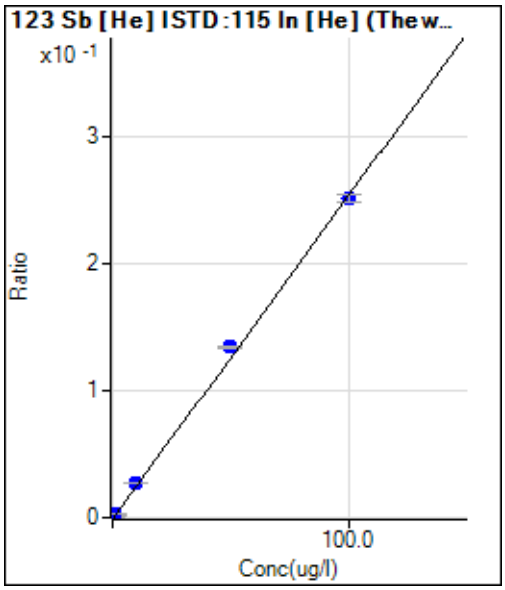
R = 0.9996

DL = 0.007689 ug/l

BEC = 0.03715 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	75.34	0.0001	P	8.8	
2	☐	0.025	0.040	154.02	0.0002	P	4.1	58.6
3	☐	0.050	0.053	179.35	0.0002	P	9.2	6.9
4	☐	0.100	0.101	272.70	0.0004	P	1.8	1.0
5	☐	0.500	0.526	1089.49	0.0014	P	2.1	5.2
6	☐	1.000	1.101	2216.73	0.0029	P	3.5	10.1
7	☐	10.000	10.542	20874.22	0.0270	P	1.2	5.4
8	☐	50.000	52.739	103666.49	0.1348	P	1.5	5.5
9	☐	100.000	98.575	203160.78	0.2519	P	2.1	-1.4
10	☐			483.72	0.0006	P	8.3	
11	☐			180.35	0.0002	P	15.5	

y = 0.0026 * x + 9.6345E-005

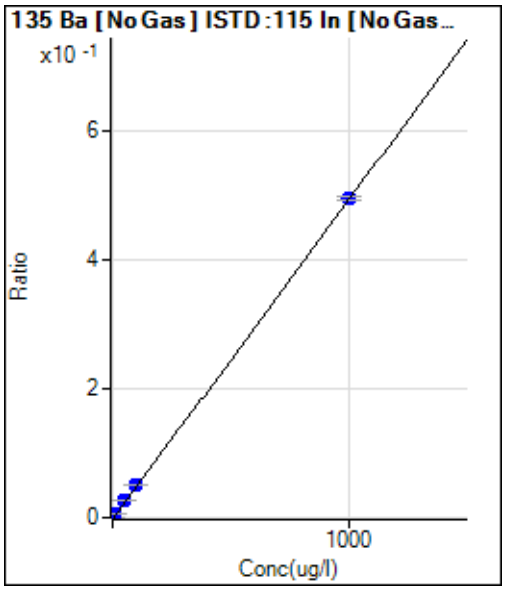
R = 0.9995

DL = 0.009922 ug/l

BEC = 0.03771 ug/l

Weight: 1/y

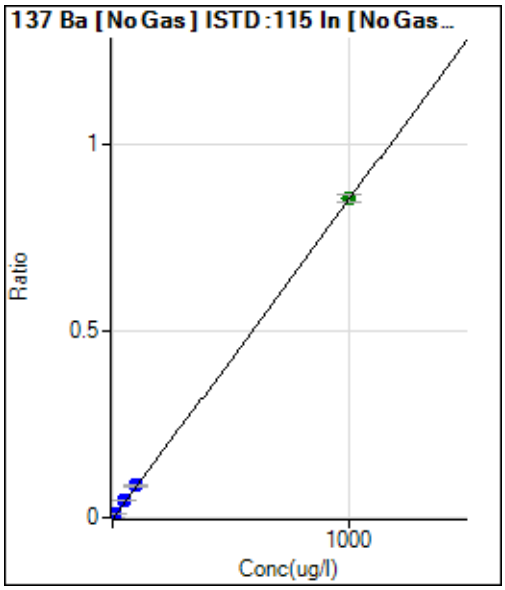
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	26.61	0.0000	P	42.6	
2	☐	0.025	0.008	36.59	0.0000	P	79.2	-66.5
3	☐	0.050	0.059	99.80	0.0000	P	62.3	17.2
4	☐	0.100	0.126	182.97	0.0001	P	22.1	25.7
5	☐	0.500	0.505	668.69	0.0003	P	8.1	1.0
6	☐	1.000	1.067	1367.36	0.0005	P	5.2	6.7
7	☐	10.000	10.555	13250.12	0.0053	P	1.6	5.6
8	☐	50.000	52.821	65507.46	0.0262	P	2.2	5.6
9	☐	100.000	102.211	131027.82	0.0508	P	4.8	2.2
10	☐	1000.000	999.632	1407053.04	0.4965	P	0.8	0.0
11	☐			219.57	0.0001	P	14.4	

y = 4.9668E-004 * x + 1.0081E-005
R = 1.0000
DL = 0.02595 ug/l
BEC = 0.0203 ug/l

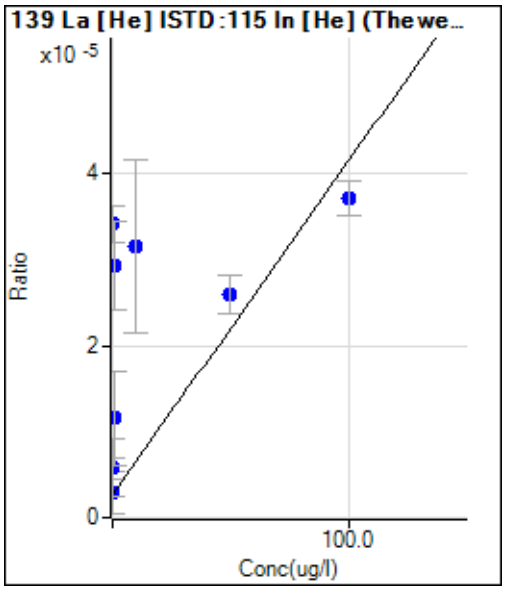
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	33.27	0.0000	P	16.7	
2	☐	0.025	0.028	93.15	0.0000	P	22.5	10.0
3	☐	0.050	0.055	153.03	0.0001	P	27.2	10.3
4	☐	0.100	0.100	249.51	0.0001	P	13.9	0.4
5	☐	0.500	0.499	1127.82	0.0004	P	7.3	-0.2
6	☐	1.000	1.084	2382.17	0.0009	P	12.5	8.4
7	☐	10.000	10.681	23106.76	0.0092	P	2.8	6.8
8	☐	50.000	52.577	112416.23	0.0450	P	0.5	5.2
9	☐	100.000	99.496	220129.35	0.0852	P	1.3	-0.5
10	☐	1000.000	999.915	2425693.75	0.8564	A	3.0	0.0
11	☐			359.30	0.0001	P	25.5	

y = 8.5649E-004 * x + 1.2614E-005
R = 1.0000
DL = 0.007366 ug/l
BEC = 0.01473 ug/l

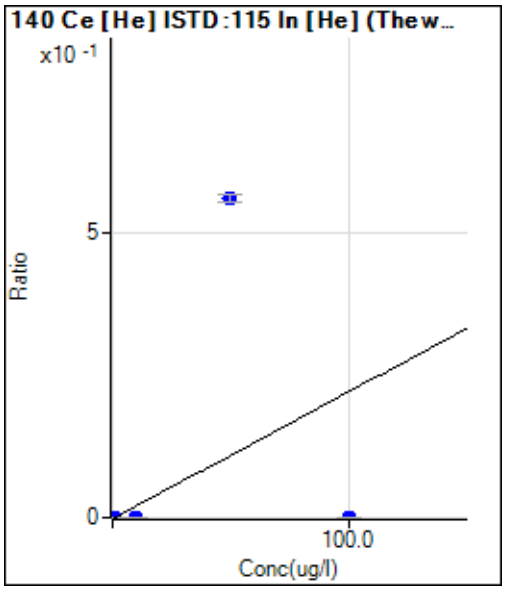
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2.22	0.0000	P	173.	
2	☐	0.025	80.637	26.67	0.0000	P	12.6	322446.
3	☐	0.050	7.517	4.44	0.0000	P	114.	14934.3
4	☐	0.100	7.494	4.44	0.0000	P	42.7	7393.5
5	☐	0.500	68.133	22.22	0.0000	P	34.6	13526.6
6	☐	1.000	22.394	8.89	0.0000	P	93.7	2139.4
7	☐	10.000	73.867	24.45	0.0000	P	63.9	638.7
8	☐	50.000	59.593	20.00	0.0000	P	17.5	19.2
9	☐	100.000	88.234	30.00	0.0000	P	10.5	-11.8
10	☐			120.00	0.0001	P	10.0	
11	☐			3.33	0.0000	P	0.4	

y = 3.8909E-007 * x + 2.8488E-006
R = 0.5338
DL = 38.05 ug/l
BEC = 7.322 ug/l

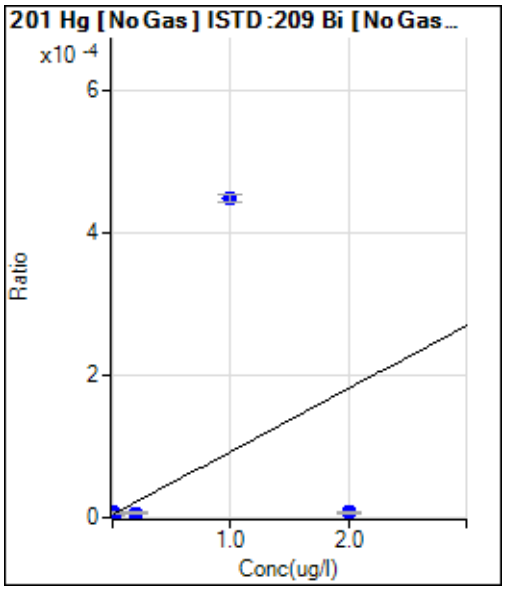
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	17.78	0.0000	P	28.2	
2	☐	0.025	0.012	37.78	0.0000	P	5.0	-53.6
3	☐	0.050	-0.002	13.33	0.0000	P	24.8	-104.9
4	☐	0.100	0.002	21.11	0.0000	P	8.6	-97.9
5	☐	0.500	0.003	22.22	0.0000	P	17.4	-99.4
6	☐	1.000	0.005	26.67	0.0000	P	23.6	-99.5
7	☐	10.000	0.010	34.44	0.0000	P	27.0	-99.9
8	☐	50.000	251.982	430716.70	0.5602	P	2.1	404.0
9	☐	100.000	0.021	55.55	0.0001	P	26.7	-100.0
10	☐			248.89	0.0003	P	10.2	
11	☐			15.56	0.0000	P	62.2	

y = 0.0022 * x + 2.2712E-005
R = 0.3451
DL = 0.008629 ug/l
BEC = 0.01022 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7.67	0.0000	P	32.5	
2	☐			6.33	0.0000	P	40.5	
3	☐	0.001	-0.016	5.67	0.0000	P	43.9	-1666.1
4	☐	0.002	0.015	9.00	0.0000	P	40.6	631.7
5	☐	0.010	0.010	8.33	0.0000	P	37.5	0.1
6	☐	0.020	0.000	7.33	0.0000	P	45.1	-97.7
7	☐	0.200	0.005	8.00	0.0000	P	47.4	-97.5
8	☐	1.000	5.007	570.90	0.0004	P	2.3	400.7
9	☐	2.000	0.016	9.33	0.0000	P	54.1	-99.2
10	☐			9.67	0.0000	P	30.6	
11	☐			12.00	0.0000	P	13.3	

y = 8.8549E-005 * x + 5.7687E-006

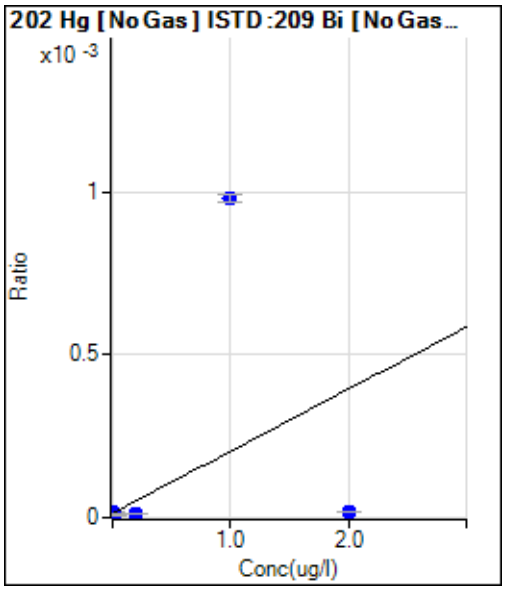
R = 0.3323

DL = 0.06342 ug/l

BEC = 0.06515 ug/l

Weight: 1/y

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	22.00	0.0000	P	41.2	
2	☐			12.33	0.0000	P	21.0	
3	☐	0.001	-0.023	15.67	0.0000	P	42.4	-2431.1
4	☐	0.002	0.005	22.33	0.0000	P	33.2	145.5
5	☐	0.010	-0.030	13.67	0.0000	P	7.6	-396.1
6	☐	0.020	-0.040	11.33	0.0000	P	55.5	-301.3
7	☐	0.200	-0.028	14.33	0.0000	P	14.3	-114.0
8	☐	1.000	5.057	1245.14	0.0010	P	2.5	405.7
9	☐	2.000	-0.005	20.33	0.0000	P	5.8	-100.2
10	☐			23.00	0.0000	P	17.7	
11	☐			21.33	0.0000	P	24.4	

y = 1.9043E-004 * x + 1.6578E-005

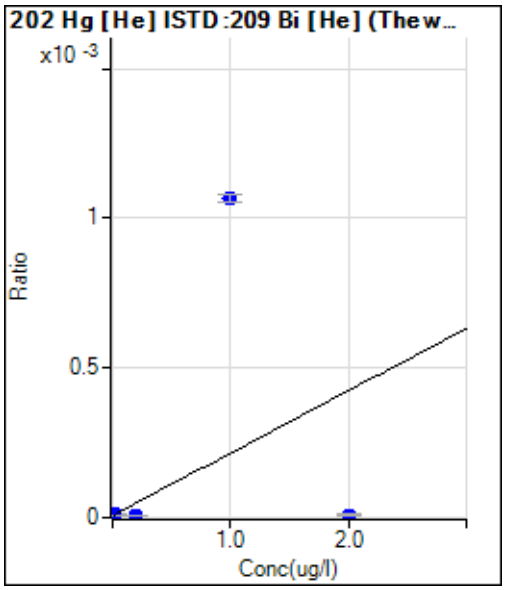
R = 0.3321

DL = 0.1076 ug/l

BEC = 0.08705 ug/l

Weight: 1/y

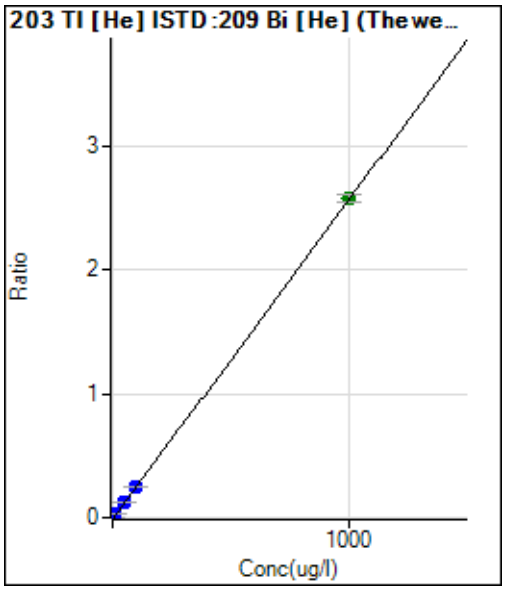
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	9.33	0.0000	P	29.4	
2	☐			7.00	0.0000	P	37.6	
3	☐	0.001	-0.028	4.33	0.0000	P	33.7	-2913.8
4	☐	0.002	-0.013	7.00	0.0000	P	37.3	-770.0
5	☐	0.010	-0.004	8.67	0.0000	P	56.6	-139.3
6	☐	0.020	-0.028	4.33	0.0000	P	35.7	-239.5
7	☐	0.200	-0.022	5.33	0.0000	P	45.1	-111.2
8	☐	1.000	5.067	922.18	0.0011	P	2.7	406.7
9	☐	2.000	-0.011	7.33	0.0000	P	41.6	-100.5
10	☐			9.00	0.0000	P	24.4	
11	☐			8.33	0.0000	P	55.2	

y = 2.0852E-004 * x + 1.0797E-005
R = 0.3304
DL = 0.04564 ug/l
BEC = 0.05178 ug/l

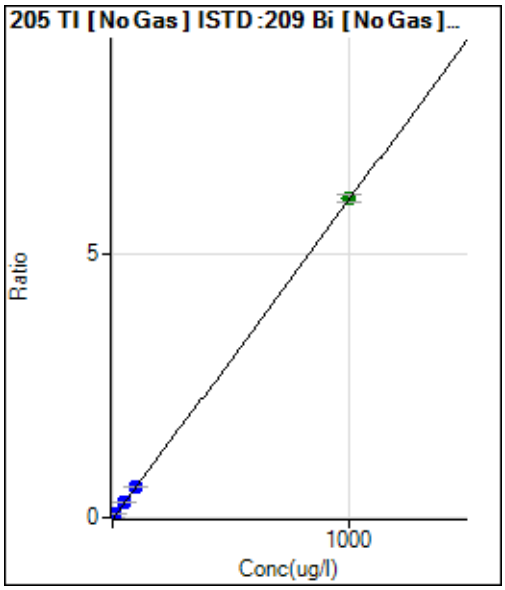
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	389.50	0.0004	P	7.4	
2	☐	0.025	-0.025	339.48	0.0004	P	13.4	-200.4
3	☐	0.050	-0.015	359.48	0.0004	P	3.4	-129.8
4	☐	0.100	0.015	426.18	0.0005	P	4.4	-84.9
5	☐	0.500	0.421	1329.94	0.0015	P	6.3	-15.9
6	☐	1.000	0.953	2535.93	0.0029	P	0.9	-4.7
7	☐	10.000	10.475	24063.27	0.0275	P	1.3	4.8
8	☐	50.000	48.711	108911.54	0.1261	P	1.3	-2.6
9	☐	100.000	97.893	216837.83	0.2530	P	1.8	-2.1
10	☐	1000.000	1000.271	2170510.30	2.5807	A	2.4	0.0
11	☐			1321.93	0.0015	P	1.6	

y = 0.0026 * x + 4.4888E-004
R = 1.0000
DL = 0.03839 ug/l
BEC = 0.174 ug/l

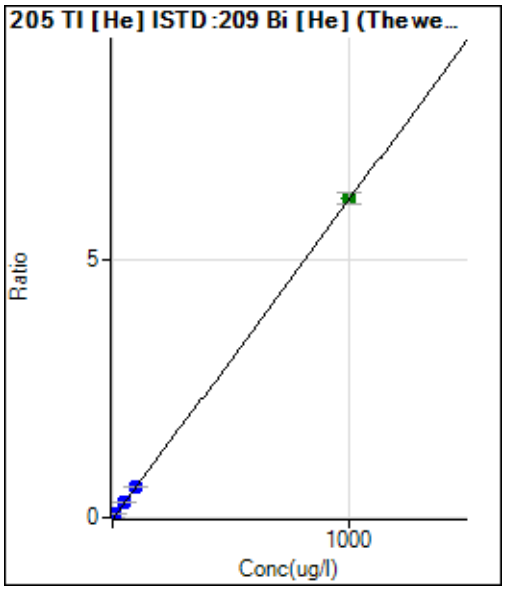
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1157.84	0.0009	P	28.0	
2	☐	0.025	-0.042	788.92	0.0006	P	16.9	-268.2
3	☐	0.050	-0.025	931.15	0.0007	P	15.9	-149.9
4	☐	0.100	0.025	1312.30	0.0010	P	13.1	-74.9
5	☐	0.500	0.447	4454.11	0.0036	P	8.1	-10.7
6	☐	1.000	0.932	8232.60	0.0065	P	1.2	-6.8
7	☐	10.000	10.037	78289.67	0.0615	P	3.7	0.4
8	☐	50.000	46.850	360671.41	0.2837	P	2.1	-6.3
9	☐	100.000	97.408	763251.17	0.5890	P	1.6	-2.6
10	☐	1000.000	1000.416	8158848.42	6.0407	A	2.0	0.0
11	☐			5137.71	0.0037	P	10.1	

y = 0.0060 * x + 8.7235E-004
R = 1.0000
DL = 0.1212 ug/l
BEC = 0.1445 ug/l

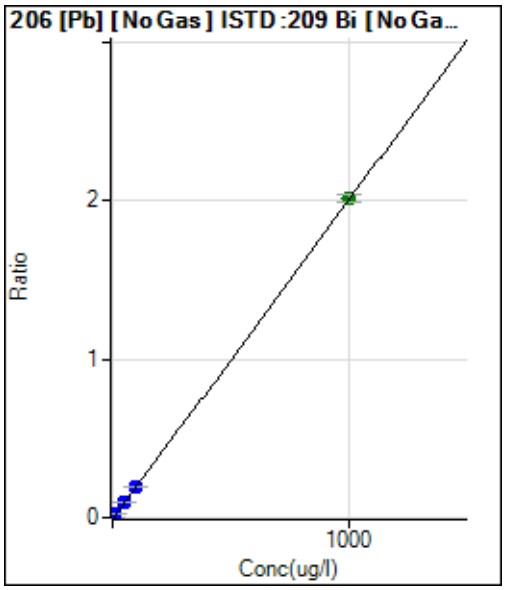
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	995.11	0.0011	P	8.6	
2	☐	0.025	-0.038	807.02	0.0009	P	1.7	-251.4
3	☐	0.050	-0.035	814.35	0.0009	P	4.1	-170.3
4	☐	0.100	0.013	1071.14	0.0012	P	4.5	-87.3
5	☐	0.500	0.416	3224.36	0.0037	P	1.4	-16.8
6	☐	1.000	0.977	6268.01	0.0072	P	2.8	-2.3
7	☐	10.000	10.384	57252.07	0.0654	P	1.4	3.8
8	☐	50.000	47.790	256209.53	0.2967	P	2.6	-4.4
9	☐	100.000	96.444	512173.97	0.5975	P	2.2	-3.6
10	☐	1000.000	1000.462	5203226.71	6.1878	A	3.4	0.0
11	☐			3215.68	0.0037	P	4.1	

y = 0.0062 * x + 0.0011
R = 1.0000
DL = 0.04792 ug/l
BEC = 0.1856 ug/l

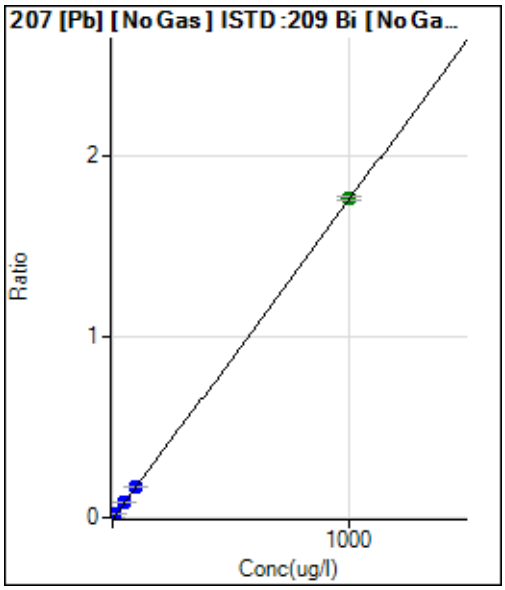
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	85.56	0.0001	P	8.6	
2	☐	0.025	0.023	142.22	0.0001	P	17.5	-6.8
3	☐	0.050	0.052	218.89	0.0002	P	12.4	4.2
4	☐	0.100	0.100	340.01	0.0003	P	13.3	-0.3
5	☐	0.500	0.534	1424.53	0.0011	P	6.5	6.8
6	☐	1.000	1.113	2921.45	0.0023	P	2.1	11.3
7	☐	10.000	10.687	27520.77	0.0216	P	4.3	6.9
8	☐	50.000	50.116	128542.29	0.1011	P	2.4	0.2
9	☐	100.000	96.218	251490.93	0.1941	P	0.6	-3.8
10	☐	1000.000	1000.365	2724462.91	2.0171	A	2.2	0.0
11	☐			637.80	0.0005	P	12.3	

y = 0.0020 * x + 6.4422E-005
R = 1.0000
DL = 0.008273 ug/l
BEC = 0.03195 ug/l

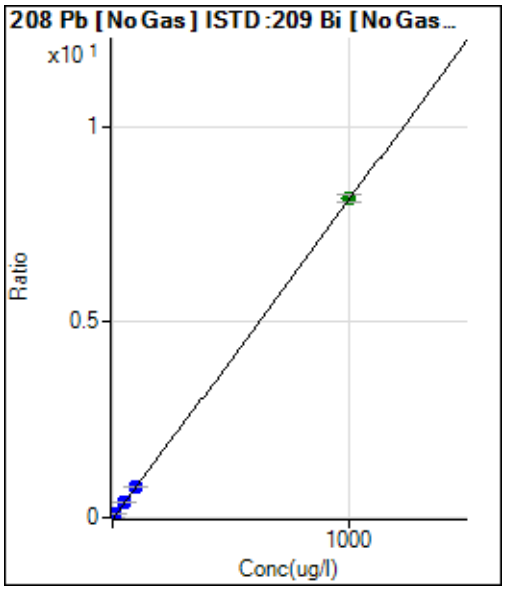
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	67.78	0.0001	P	33.1	
2	☐	0.025	0.036	146.67	0.0001	P	7.2	44.9
3	☐	0.050	0.057	196.67	0.0002	P	8.4	14.9
4	☐	0.100	0.099	290.01	0.0002	P	2.8	-0.6
5	☐	0.500	0.509	1185.62	0.0010	P	7.6	1.8
6	☐	1.000	1.065	2444.68	0.0019	P	2.3	6.5
7	☐	10.000	10.189	22959.93	0.0180	P	6.6	1.9
8	☐	50.000	49.869	111986.30	0.0881	P	4.3	-0.3
9	☐	100.000	95.982	219676.54	0.1695	P	1.9	-4.0
10	☐	1000.000	1000.406	2386230.94	1.7665	A	1.4	0.0
11	☐			577.80	0.0004	P	2.9	

y = 0.0018 * x + 5.1013E-005
R = 1.0000
DL = 0.02871 ug/l
BEC = 0.02889 ug/l

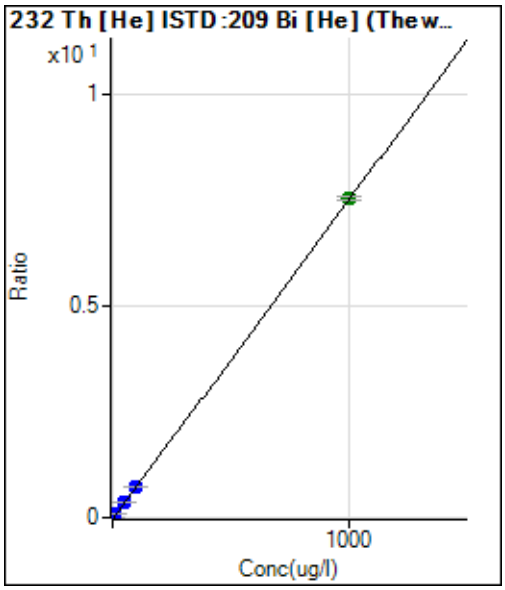
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	303.34	0.0002	P	9.4	
2	☐	0.025	0.032	624.45	0.0005	P	6.1	28.1
3	☐	0.050	0.052	845.57	0.0007	P	7.6	4.6
4	☐	0.100	0.107	1406.71	0.0011	P	7.6	6.8
5	☐	0.500	0.524	5614.95	0.0045	P	6.2	4.7
6	☐	1.000	1.089	11528.72	0.0091	P	1.1	8.9
7	☐	10.000	10.405	108358.54	0.0851	P	3.7	4.0
8	☐	50.000	48.857	506791.07	0.3987	P	2.1	-2.3
9	☐	100.000	95.824	1012958.76	0.7817	P	2.1	-4.2
10	☐	1000.000	1000.471	11021060.43	8.1592	A	2.3	0.0
11	☐			2595.67	0.0019	P	3.0	

y = 0.0082 * x + 2.2840E-004
R = 1.0000
DL = 0.007863 ug/l
BEC = 0.02801 ug/l

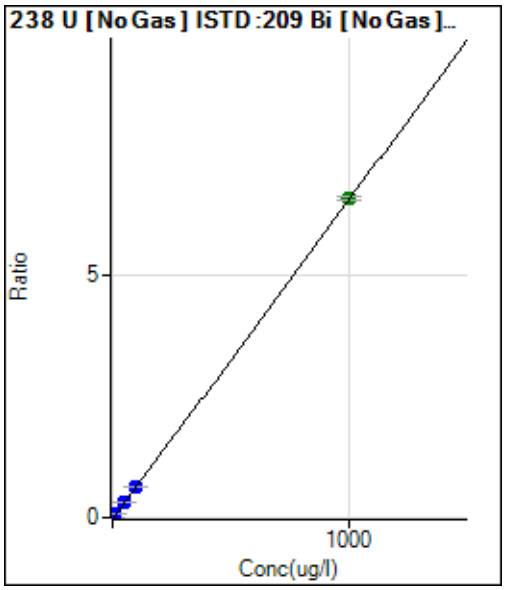
Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	78.03	0.0001	P	6.1	
2	☐	0.025	0.015	176.74	0.0002	P	15.6	-41.7
3	☐	0.050	0.031	282.12	0.0003	P	10.5	-38.6
4	☐	0.100	0.074	564.24	0.0006	P	3.8	-26.4
5	☐	0.500	0.450	3026.24	0.0035	P	3.2	-10.0
6	☐	1.000	0.984	6564.29	0.0075	P	3.9	-1.6
7	☐	10.000	10.052	66623.42	0.0761	P	2.0	0.5
8	☐	50.000	48.650	317686.40	0.3678	P	1.3	-2.7
9	☐	100.000	95.501	618808.80	0.7219	P	2.0	-4.5
10	☐	1000.000	1000.517	6361401.16	7.5624	A	1.6	0.1
11	☐			1500.69	0.0017	P	2.2	

y = 0.0076 * x + 8.9845E-005
R = 1.0000
DL = 0.002193 ug/l
BEC = 0.01189 ug/l

Weight: 1/y
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	15.67	0.0000	P	19.1	
2	☐	0.025	0.031	278.95	0.0002	P	1.6	25.7
3	☐	0.050	0.048	426.26	0.0003	P	6.5	-3.2
4	☐	0.100	0.105	902.52	0.0007	P	5.2	5.4
5	☐	0.500	0.508	4188.51	0.0034	P	3.4	1.6
6	☐	1.000	1.029	8592.44	0.0068	P	1.8	2.9
7	☐	10.000	9.991	83779.47	0.0658	P	3.2	-0.1
8	☐	50.000	48.585	406533.63	0.3198	P	3.6	-2.8
9	☐	100.000	96.445	822661.96	0.6348	P	2.0	-3.6
10	☐	1000.000	1000.426	8895287.81	6.5852	A	1.6	0.0
11	☐			1471.46	0.0011	P	3.7	

y = 0.0066 * x + 1.1793E-005

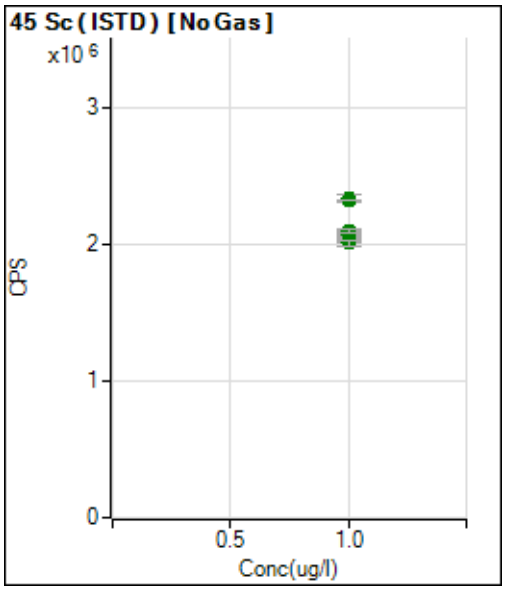
R = 1.0000

DL = 0.001026 ug/l

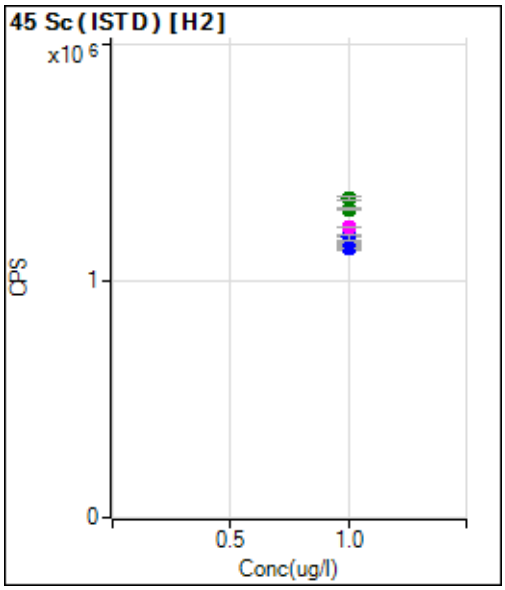
BEC = 0.001792 ug/l

Weight: 1/y

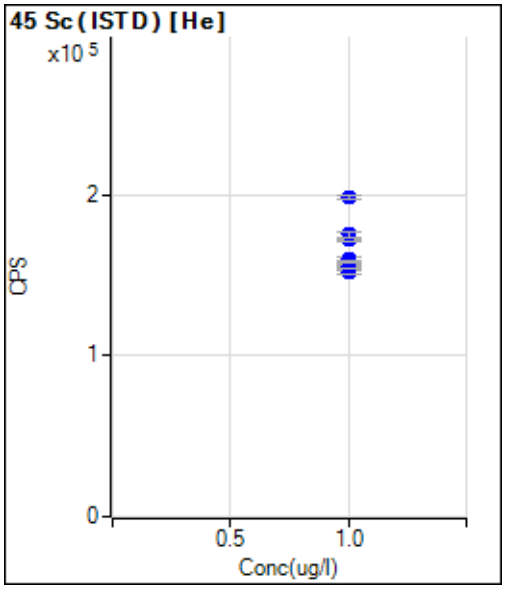
Min Conc: <None>



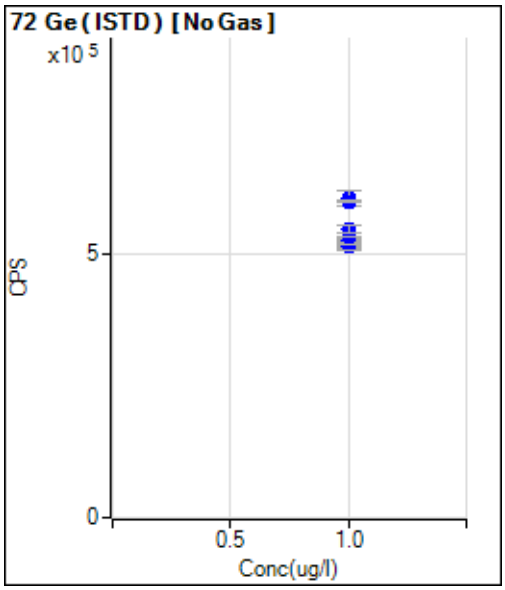
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2068667.98		A	1.8	
2	☐	1.000		2059743.25		A	1.3	
3	☐	1.000		2035550.88		A	0.9	
4	☐	1.000		2035685.79		A	1.5	
5	☐	1.000		2034217.25		A	0.8	
6	☐	1.000		2016275.10		A	0.8	
7	☐	1.000		2065999.46		A	2.3	
8	☐	1.000		2008407.32		A	1.9	
9	☐	1.000		2094437.77		A	1.3	
10	☐	1.000		2335007.05		A	1.9	
11	☐	1.000		2323527.30		A	0.1	



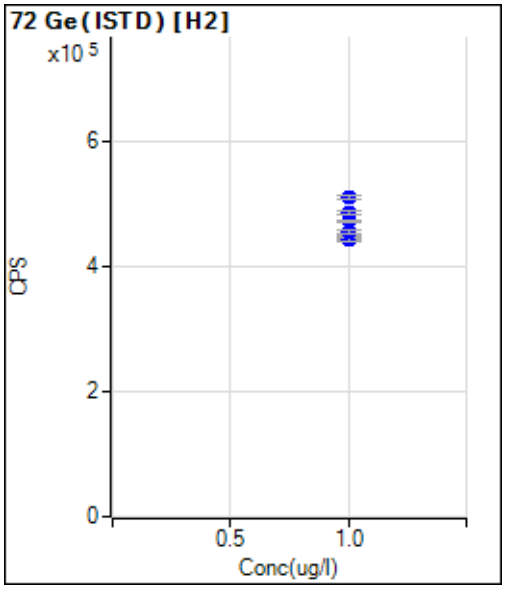
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1189905.24		P	0.4	
2	☐	1.000		1165813.92		P	0.3	
3	☐	1.000		1142781.24		P	1.6	
4	☐	1.000		1152416.04		P	1.0	
5	☐	1.000		1137332.00		P	0.5	
6	☐	1.000		1141888.27		P	0.3	
7	☐	1.000		1162750.41		P	0.6	
8	☐	1.000		1183650.08		P	1.8	
9	☐	1.000		1227785.35		M	0.4	
10	☐	1.000		1349415.07		A	1.2	
11	☐	1.000		1304182.79		A	0.7	



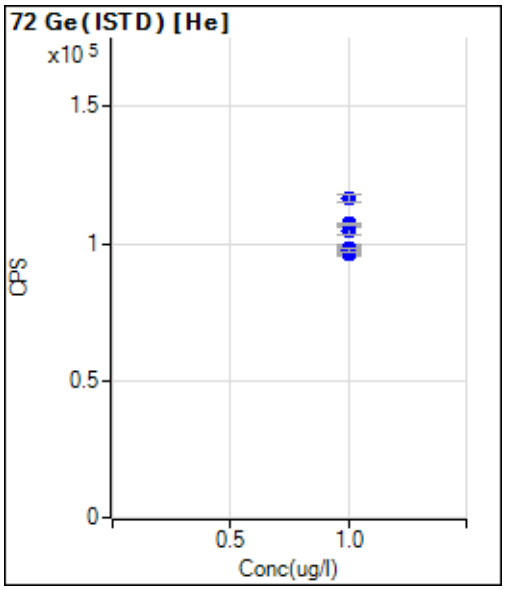
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		160349.18		P	1.5	
2	☐	1.000		156019.87		P	0.8	
3	☐	1.000		154719.38		P	1.8	
4	☐	1.000		155878.83		P	1.0	
5	☐	1.000		154427.88		P	1.0	
6	☐	1.000		151773.80		P	1.4	
7	☐	1.000		155208.95		P	0.9	
8	☐	1.000		158509.61		P	1.2	
9	☐	1.000		171902.54		P	0.6	
10	☐	1.000		198323.39		P	1.1	
11	☐	1.000		175138.82		P	1.8	



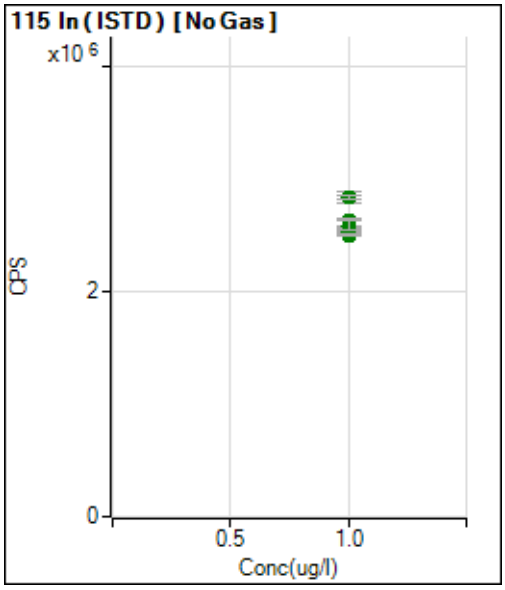
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		521531.55		P	1.7	
2	☐	1.000		525703.20		P	1.4	
3	☐	1.000		519443.01		P	1.0	
4	☐	1.000		516632.31		P	1.2	
5	☐	1.000		514882.00		P	0.5	
6	☐	1.000		513739.69		P	2.2	
7	☐	1.000		521145.54		P	0.7	
8	☐	1.000		533384.81		P	0.3	
9	☐	1.000		549154.97		P	2.7	
10	☐	1.000		606781.68		P	4.5	
11	☐	1.000		601069.08		P	1.0	



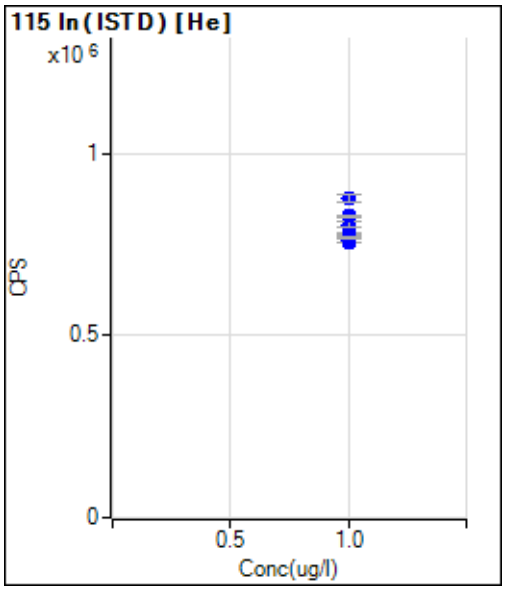
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		451143.21		P	1.1	
2	☐	1.000		447956.35		P	1.3	
3	☐	1.000		447515.45		P	1.1	
4	☐	1.000		445578.31		P	1.3	
5	☐	1.000		443542.66		P	1.8	
6	☐	1.000		445137.43		P	0.2	
7	☐	1.000		444488.67		P	1.1	
8	☐	1.000		457876.78		P	1.3	
9	☐	1.000		473681.01		P	0.8	
10	☐	1.000		512000.42		P	1.0	
11	☐	1.000		486838.25		P	1.0	



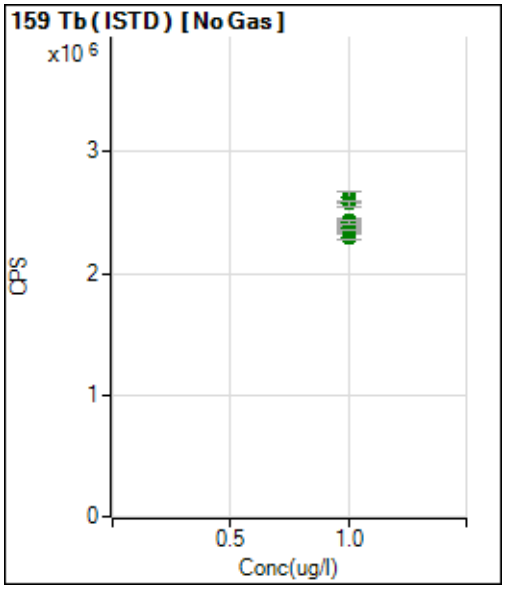
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		98531.66		P	2.4	
2	☐	1.000		97823.23		P	0.7	
3	☐	1.000		98025.95		P	2.3	
4	☐	1.000		96095.18		P	1.6	
5	☐	1.000		96774.37		P	2.2	
6	☐	1.000		96517.95		P	0.8	
7	☐	1.000		96979.81		P	1.5	
8	☐	1.000		97906.35		P	1.4	
9	☐	1.000		104765.08		P	2.9	
10	☐	1.000		116539.84		P	2.3	
11	☐	1.000		107372.95		P	0.7	



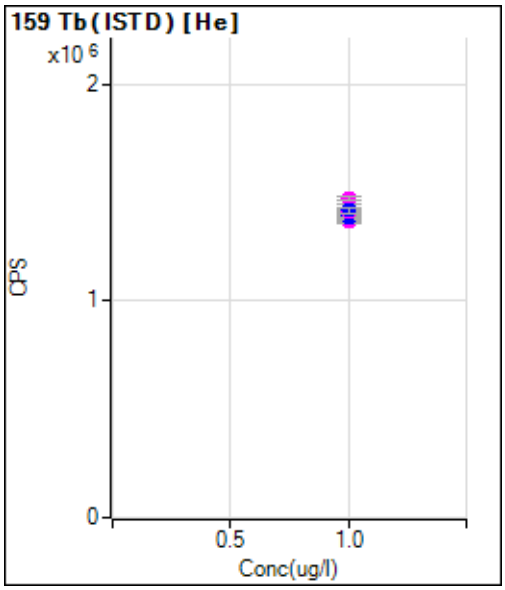
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2635561.48		A	0.7	
2	☐	1.000		2575760.82		A	0.5	
3	☐	1.000		2562954.62		A	1.6	
4	☐	1.000		2528783.12		A	1.8	
5	☐	1.000		2564062.50		A	0.7	
6	☐	1.000		2532414.53		A	0.4	
7	☐	1.000		2522553.61		A	1.1	
8	☐	1.000		2495749.26		A	0.9	
9	☐	1.000		2583273.78		A	3.5	
10	☐	1.000		2834318.18		A	4.1	
11	☐	1.000		2829943.33		A	1.5	



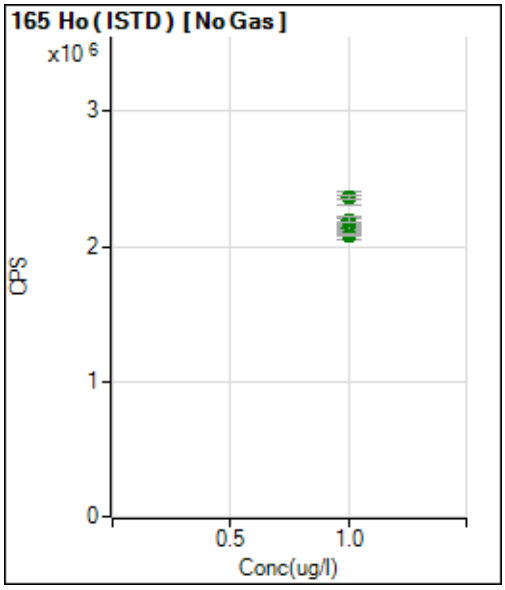
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		782074.17		P	0.5	
2	☐	1.000		779267.92		P	0.5	
3	☐	1.000		770047.73		P	0.3	
4	☐	1.000		769581.03		P	1.2	
5	☐	1.000		756871.73		P	0.3	
6	☐	1.000		762053.93		P	1.7	
7	☐	1.000		772375.52		P	1.6	
8	☐	1.000		768914.36		P	0.8	
9	☐	1.000		806587.31		P	1.6	
10	☐	1.000		878069.80		P	2.3	
11	☐	1.000		827985.39		P	0.4	



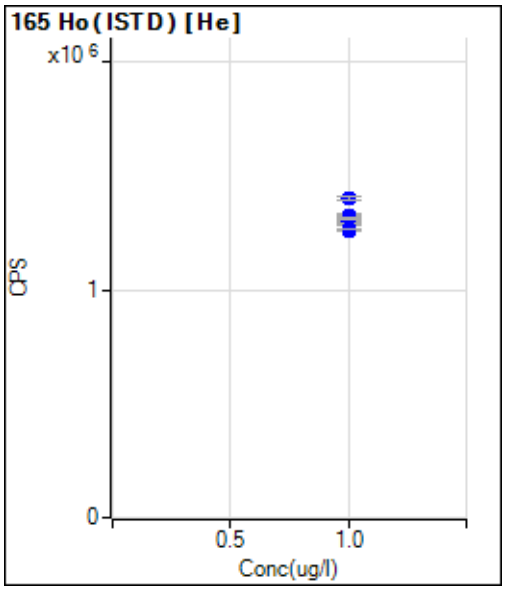
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2435285.69		A	1.7	
2	☐	1.000		2352630.12		A	1.8	
3	☐	1.000		2340122.85		A	0.6	
4	☐	1.000		2300947.82		A	1.6	
5	☐	1.000		2362560.76		A	0.7	
6	☐	1.000		2349087.02		A	2.6	
7	☐	1.000		2341429.50		A	0.5	
8	☐	1.000		2373279.11		A	1.6	
9	☐	1.000		2423685.40		A	0.9	
10	☐	1.000		2626459.05		A	3.0	
11	☐	1.000		2572473.61		A	2.1	



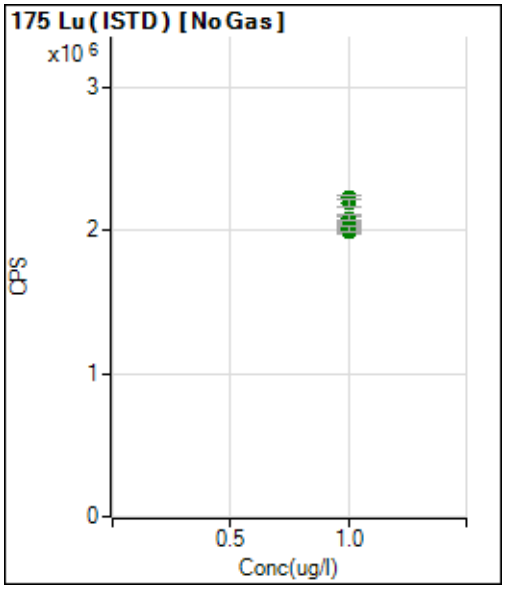
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1422846.50		M	2.9	
2	☐	1.000		1402272.47		P	1.5	
3	☐	1.000		1390496.76		P	1.2	
4	☐	1.000		1379549.11		P	1.7	
5	☐	1.000		1393606.51		P	0.9	
6	☐	1.000		1365882.17		M	0.8	
7	☐	1.000		1389547.40		P	2.0	
8	☐	1.000		1404749.63		P	3.1	
9	☐	1.000		1410681.85		M	1.6	
10	☐	1.000		1474125.05		M	1.1	
11	☐	1.000		1418006.67		P	1.6	



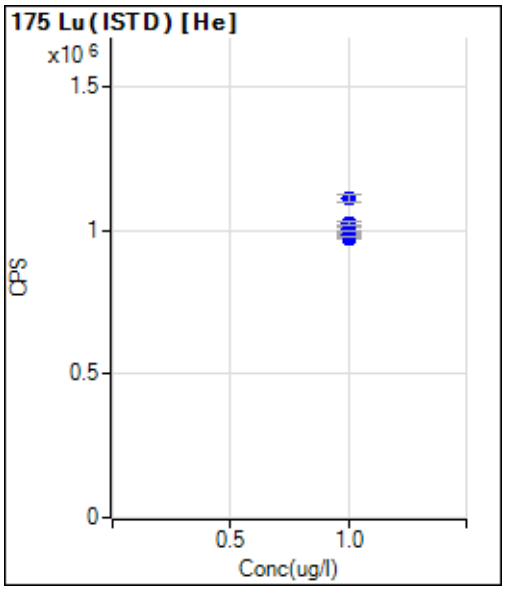
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2197283.51		A	1.3	
2	☐	1.000		2117921.00		A	0.9	
3	☐	1.000		2146303.03		A	2.0	
4	☐	1.000		2097490.83		A	0.6	
5	☐	1.000		2132643.06		A	1.4	
6	☐	1.000		2096261.96		A	4.5	
7	☐	1.000		2140610.82		A	2.1	
8	☐	1.000		2084743.11		A	0.7	
9	☐	1.000		2198585.23		A	2.0	
10	☐	1.000		2358590.41		A	4.0	
11	☐	1.000		2365023.48		A	1.4	



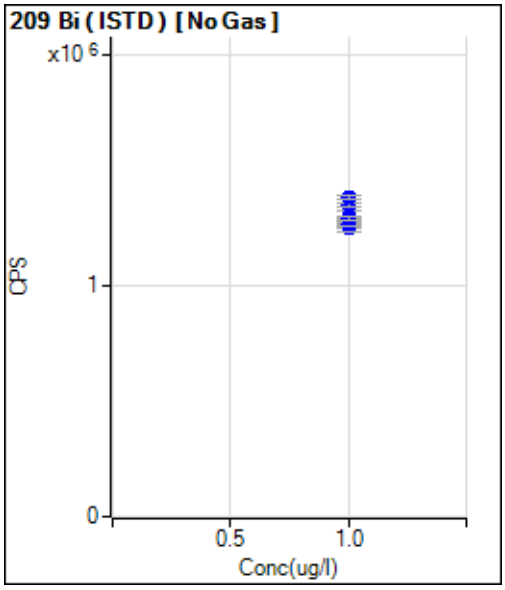
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1325688.31		P	1.8	
2	☐	1.000		1297599.34		P	0.9	
3	☐	1.000		1267907.94		P	0.2	
4	☐	1.000		1291914.07		P	1.6	
5	☐	1.000		1260896.58		P	0.2	
6	☐	1.000		1267607.89		P	0.6	
7	☐	1.000		1302241.94		P	1.7	
8	☐	1.000		1300160.63		P	0.9	
9	☐	1.000		1312902.70		P	2.7	
10	☐	1.000		1403052.73		P	1.3	
11	☐	1.000		1315077.78		P	1.0	



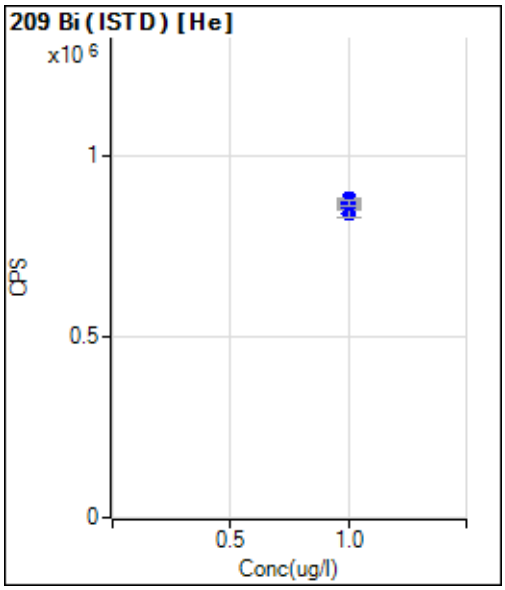
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2076898.98		A	1.6	
2	☐	1.000		2035711.63		A	2.7	
3	☐	1.000		2024356.49		A	3.1	
4	☐	1.000		1987994.97		A	1.9	
5	☐	1.000		2020686.98		A	2.2	
6	☐	1.000		2005374.26		A	1.4	
7	☐	1.000		2011065.81		A	1.6	
8	☐	1.000		2006837.31		A	1.9	
9	☐	1.000		2084312.10		A	1.9	
10	☐	1.000		2230724.48		A	1.4	
11	☐	1.000		2189272.87		A	2.7	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1024798.97		P	1.1	
2	☐	1.000		983366.75		P	1.3	
3	☐	1.000		973096.50		P	0.3	
4	☐	1.000		994577.50		P	0.7	
5	☐	1.000		982067.13		P	1.2	
6	☐	1.000		989054.73		P	1.3	
7	☐	1.000		1004876.57		P	1.3	
8	☐	1.000		1005803.13		P	0.9	
9	☐	1.000		1025921.26		P	2.0	
10	☐	1.000		1113864.96		P	2.1	
11	☐	1.000		1028465.85		P	1.5	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1327778.70		P	0.4	
2	☐	1.000		1275304.18		P	0.8	
3	☐	1.000		1290635.87		P	0.7	
4	☐	1.000		1280464.37		P	2.0	
5	☐	1.000		1248831.50		P	1.6	
6	☐	1.000		1266208.09		P	1.6	
7	☐	1.000		1274867.88		P	4.2	
8	☐	1.000		1271458.67		P	1.3	
9	☐	1.000		1295837.46		P	1.0	
10	☐	1.000		1350715.63		P	1.0	
11	☐	1.000		1385388.84		P	1.6	



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		868427.28		P	2.4	
2	☐	1.000		883553.00		P	0.3	
3	☐	1.000		875911.99		P	1.7	
4	☐	1.000		873596.20		P	0.6	
5	☐	1.000		866921.11		P	0.6	
6	☐	1.000		872104.28		P	2.3	
7	☐	1.000		876065.98		P	1.7	
8	☐	1.000		863780.75		P	1.3	
9	☐	1.000		857339.51		P	1.6	
10	☐	1.000		841415.30		P	2.8	
11	☐	1.000		869500.61		P	1.8	

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	001BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 11:54:19
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	13147.61
Be	9	45	1	No Gas		ug/l	259.95
B	11	45	1	No Gas		ug/l	2345.80
Na	23	45	3	He		ug/l	57310.82
Mg	24	45	3	He		ug/l	1423.91
Al	27	45	1	No Gas		ug/l	9966.68
Si	28	45	2	H2		ug/l	41719.18
K	39	72	3	He		ug/l	162919.73
Ca	40	72	2	H2		ug/l	236199.53
Ti	47	72	1	No Gas		ug/l	744.11
V	51	72	1	No Gas		ug/l	-81706.48
V	51	72	3	He		ug/l	30569.46
Cr	52	72	1	No Gas		ug/l	93479.31
Cr	52	72	3	He		ug/l	4948.63
Mn	55	72	1	No Gas		ug/l	9271.24
Mn	55	72	3	He		ug/l	367.60
Fe	56	72	2	H2		ug/l	20461.45
Fe	56	72	3	He		ug/l	19672.93
Co	59	72	1	No Gas		ug/l	711.94
Ni	60	72	1	No Gas		ug/l	835.04
Ni	60	72	3	He		ug/l	335.56
Cu	63	72	1	No Gas		ug/l	1934.91
Cu	63	72	3	He		ug/l	586.90
Cu	65	72	1	No Gas		ug/l	761.00
Zn	66	72	1	No Gas		ug/l	644.02
Zn	66	72	3	He		ug/l	165.56
As	75	72	1	No Gas		ug/l	10023.66
As	75	72	3	He		ug/l	1186.89
Se	78	72	2	H2		ug/l	51.33
Br	79	72	1	No Gas		ug/l	19900.96
Br	79	72	2	H2		ug/l	13203.21
Se	82	72	1	No Gas		ug/l	739.95
Kr	84	72	1	No Gas		ug/l	19661.10
Sr	88	72	1	No Gas		ug/l	266.14
Sr	88	72	3	He		ug/l	108.89
Mo	95	115	1	No Gas		ug/l	26.67
Mo	95	115	3	He		ug/l	7.78
Mo	98	115	1	No Gas		ug/l	24.52
Ag	107	115	1	No Gas		ug/l	626.94
Ag	109	115	1	No Gas		ug/l	626.26
Cd	111	115	1	No Gas		ug/l	1.24

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	9.22
Cd	114	115	1	No Gas		ug/l	-43.36
Cd	114	115	3	He		ug/l	16.42
Sn	118	115	1	No Gas		ug/l	914.88
Sn	118	115	3	He		ug/l	330.01
Sb	121	115	1	No Gas		ug/l	151.69
Sb	121	115	3	He		ug/l	71.34
Sb	123	115	1	No Gas		ug/l	116.01
Sb	123	115	3	He		ug/l	45.34
Ba	135	115	1	No Gas		ug/l	26.61
Ba	137	115	1	No Gas		ug/l	26.61
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	8.00
Hg	202	209	1	No Gas		ug/l	15.67
Hg	202	209	3	He		ug/l	4.00
Tl	203	209	3	He		ug/l	88.04
Tl	205	209	1	No Gas		ug/l	374.45
Tl	205	209	3	He		ug/l	242.10
[Pb]	206	209	1	No Gas		ug/l	140.00
[Pb]	207	209	1	No Gas		ug/l	118.89
Pb	208	209	1	No Gas		ug/l	513.34
Th	232	209	3	He		ug/l	52.69
U	238	209	1	No Gas		ug/l	139.07

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2558648.37	
Sc	45	2	H2	1560972.31	
Sc	45	3	He	231703.19	
Ge	72	1	No Gas	649219.86	
Ge	72	2	H2	568626.18	
Ge	72	3	He	126540.64	
In	115	1	No Gas	2900347.66	
In	115	3	He	956042.66	
Tb	159	1	No Gas	2508902.51	
Tb	159	3	He	1463568.60	
Ho	165	1	No Gas	2210568.98	
Ho	165	3	He	1339409.36	
Lu	175	1	No Gas	2068559.29	
Lu	175	3	He	1087976.01	
Bi	209	1	No Gas	1435653.51	
Bi	209	3	He	855213.30	

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	002BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:00:34
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	11778.61
Be	9	45	1	No Gas		ug/l	250.62
B	11	45	1	No Gas		ug/l	2203.05
Na	23	45	3	He		ug/l	57004.01
Mg	24	45	3	He		ug/l	1510.42
Al	27	45	1	No Gas		ug/l	9756.55
Si	28	45	2	H2		ug/l	36629.31
K	39	72	3	He		ug/l	160742.98
Ca	40	72	2	H2		ug/l	236932.09
Ti	47	72	1	No Gas		ug/l	674.03
V	51	72	1	No Gas		ug/l	-81874.72
V	51	72	3	He		ug/l	31132.89
Cr	52	72	1	No Gas		ug/l	95173.89
Cr	52	72	3	He		ug/l	4861.93
Mn	55	72	1	No Gas		ug/l	10253.26
Mn	55	72	3	He		ug/l	346.27
Fe	56	72	2	H2		ug/l	20847.37
Fe	56	72	3	He		ug/l	19726.38
Co	59	72	1	No Gas		ug/l	788.46
Ni	60	72	1	No Gas		ug/l	861.66
Ni	60	72	3	He		ug/l	347.78
Cu	63	72	1	No Gas		ug/l	1970.93
Cu	63	72	3	He		ug/l	592.23
Cu	65	72	1	No Gas		ug/l	727.64
Zn	66	72	1	No Gas		ug/l	703.82
Zn	66	72	3	He		ug/l	170.00
As	75	72	1	No Gas		ug/l	17009.16
As	75	72	3	He		ug/l	1189.22
Se	78	72	2	H2		ug/l	41.22
Br	79	72	1	No Gas		ug/l	22662.96
Br	79	72	2	H2		ug/l	14791.59
Se	82	72	1	No Gas		ug/l	612.21
Kr	84	72	1	No Gas		ug/l	18541.79
Sr	88	72	1	No Gas		ug/l	252.84
Sr	88	72	3	He		ug/l	121.11
Mo	95	115	1	No Gas		ug/l	22.22
Mo	95	115	3	He		ug/l	15.56
Mo	98	115	1	No Gas		ug/l	23.75
Ag	107	115	1	No Gas		ug/l	634.94
Ag	109	115	1	No Gas		ug/l	624.93
Cd	111	115	1	No Gas		ug/l	-9.85

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	7.00
Cd	114	115	1	No Gas		ug/l	-53.12
Cd	114	115	3	He		ug/l	16.79
Sn	118	115	1	No Gas		ug/l	948.16
Sn	118	115	3	He		ug/l	353.34
Sb	121	115	1	No Gas		ug/l	129.01
Sb	121	115	3	He		ug/l	52.01
Sb	123	115	1	No Gas		ug/l	110.01
Sb	123	115	3	He		ug/l	44.67
Ba	135	115	1	No Gas		ug/l	13.31
Ba	137	115	1	No Gas		ug/l	39.92
La	139	115	3	He		ug/l	6.67
Ce	140	115	3	He		ug/l	14.44
Hg	201	209	1	No Gas		ug/l	14.33
Hg	202	209	1	No Gas		ug/l	17.00
Hg	202	209	3	He		ug/l	7.00
Tl	203	209	3	He		ug/l	102.71
Tl	205	209	1	No Gas		ug/l	320.01
Tl	205	209	3	He		ug/l	205.42
[Pb]	206	209	1	No Gas		ug/l	112.22
[Pb]	207	209	1	No Gas		ug/l	85.56
Pb	208	209	1	No Gas		ug/l	402.23
Th	232	209	3	He		ug/l	55.35
U	238	209	1	No Gas		ug/l	19.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2615061.77	
Sc	45	2	H2	1548116.63	
Sc	45	3	He	227748.41	
Ge	72	1	No Gas	629573.77	
Ge	72	2	H2	574255.98	
Ge	72	3	He	127436.13	
In	115	1	No Gas	2876529.11	
In	115	3	He	958520.30	
Tb	159	1	No Gas	2518786.69	
Tb	159	3	He	1462787.10	
Ho	165	1	No Gas	2229789.03	
Ho	165	3	He	1353724.50	
Lu	175	1	No Gas	2079360.36	
Lu	175	3	He	1086137.45	
Bi	209	1	No Gas	1364677.18	
Bi	209	3	He	868773.75	

ICPMS207-B Analytical Data

Sample Name	Cal Blk
File Name	003CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:06:48
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	11522.31
Be	9	45	1	No Gas	0.000	ug/l	257.95
B	11	45	1	No Gas	0.000	ug/l	2137.68
Na	23	45	3	He	0.000	ug/l	56864.77
Mg	24	45	3	He	0.000	ug/l	1533.70
Al	27	45	1	No Gas	0.000	ug/l	9684.28
Si	28	45	2	H2	0.000	ug/l	31551.76
K	39	72	3	He	0.000	ug/l	159548.52
Ca	40	72	2	H2	0.000	ug/l	229028.24
Ti	47	72	1	No Gas	0.000	ug/l	655.68
V	51	72	1	No Gas	0.000	ug/l	-59286.33
V	51	72	3	He	0.000	ug/l	30965.80
Cr	52	72	1	No Gas	0.000	ug/l	94580.85
Cr	52	72	3	He	0.000	ug/l	4969.75
Mn	55	72	1	No Gas	0.000	ug/l	9690.64
Mn	55	72	3	He	0.000	ug/l	346.27
Fe	56	72	2	H2	0.000	ug/l	20810.64
Fe	56	72	3	He	0.000	ug/l	19206.84
Co	59	72	1	No Gas	0.000	ug/l	721.92
Ni	60	72	1	No Gas	0.000	ug/l	808.43
Ni	60	72	3	He	0.000	ug/l	296.67
Cu	63	72	1	No Gas	0.000	ug/l	1861.54
Cu	63	72	3	He	0.000	ug/l	594.23
Cu	65	72	1	No Gas	0.000	ug/l	656.28
Zn	66	72	1	No Gas	0.000	ug/l	763.77
Zn	66	72	3	He	0.000	ug/l	186.67
As	75	72	1	No Gas	0.000	ug/l	18715.51
As	75	72	3	He	0.000	ug/l	1163.55
Se	78	72	2	H2	0.000	ug/l	45.22
Br	79	72	1	No Gas	0.000	ug/l	23762.60
Br	79	72	2	H2	0.000	ug/l	16133.71
Se	82	72	1	No Gas	0.000	ug/l	725.55
Kr	84	72	1	No Gas		ug/l	20140.86
Sr	88	72	1	No Gas	0.000	ug/l	226.22
Sr	88	72	3	He	0.000	ug/l	121.11
Mo	95	115	1	No Gas	0.000	ug/l	20.00
Mo	95	115	3	He	0.000	ug/l	8.89
Mo	98	115	1	No Gas	0.000	ug/l	32.78
Ag	107	115	1	No Gas	0.000	ug/l	658.95
Ag	109	115	1	No Gas	0.000	ug/l	588.92
Cd	111	115	1	No Gas	0.000	ug/l	10.47

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	0.000	ug/l	-40.78
Cd	114	115	3	He	0.000	ug/l	14.38
Sn	118	115	1	No Gas	0.000	ug/l	1011.38
Sn	118	115	3	He	0.000	ug/l	352.23
Sb	121	115	1	No Gas	0.000	ug/l	108.01
Sb	121	115	3	He	0.000	ug/l	59.68
Sb	123	115	1	No Gas	0.000	ug/l	81.68
Sb	123	115	3	He	0.000	ug/l	41.00
Ba	135	115	1	No Gas	0.000	ug/l	16.63
Ba	137	115	1	No Gas	0.000	ug/l	49.90
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.000	ug/l	7.78
Hg	201	209	1	No Gas	0.000	ug/l	9.67
Hg	202	209	1	No Gas	0.000	ug/l	19.33
Hg	202	209	3	He	0.000	ug/l	4.33
Tl	203	209	3	He	0.000	ug/l	79.37
Tl	205	209	1	No Gas	0.000	ug/l	298.89
Tl	205	209	3	He	0.000	ug/l	174.07
[Pb]	206	209	1	No Gas	0.000	ug/l	120.00
[Pb]	207	209	1	No Gas	0.000	ug/l	91.11
Pb	208	209	1	No Gas	0.000	ug/l	418.89
Th	232	209	3	He	0.000	ug/l	42.68
U	238	209	1	No Gas	0.000	ug/l	24.00

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2690306.33	100.0
Sc	45	2	H2	1594616.03	100.0
Sc	45	3	He	226047.03	100.0
Ge	72	1	No Gas	652390.19	100.0
Ge	72	2	H2	556125.38	100.0
Ge	72	3	He	125536.13	100.0
In	115	1	No Gas	3075775.44	100.0
In	115	3	He	957731.18	100.0
Tb	159	1	No Gas	2665356.67	100.0
Tb	159	3	He	1509876.09	100.0
Ho	165	1	No Gas	2407332.30	100.0
Ho	165	3	He	1390306.01	100.0
Lu	175	1	No Gas	2241602.49	100.0
Lu	175	3	He	1088975.77	100.0
Bi	209	1	No Gas	1428906.69	100.0
Bi	209	3	He	868118.45	100.0

ICPMS207-B Analytical Data

Sample Name	0.025 ppb STD
File Name	004CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:13:32
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	0.104	ug/l	12237.17
Be	9	45	1	No Gas	0.023	ug/l	318.61
B	11	45	1	No Gas	-0.131	ug/l	1952.92
Na	23	45	3	He	7.403	ug/l	62623.95
Mg	24	45	3	He	7.237	ug/l	4328.72
Al	27	45	1	No Gas	0.174	ug/l	11995.95
Si	28	45	2	H2	-0.438	ug/l	30448.35
K	39	72	3	He	3.925	ug/l	162565.33
Ca	40	72	2	H2	9.883	ug/l	283875.38
Ti	47	72	1	No Gas	0.013	ug/l	674.03
V	51	72	1	No Gas	2.666	ug/l	-14072.09
V	51	72	3	He	0.372	ug/l	32453.45
Cr	52	72	1	No Gas	0.025	ug/l	95076.48
Cr	52	72	3	He	-0.049	ug/l	4828.59
Mn	55	72	1	No Gas	0.046	ug/l	10569.56
Mn	55	72	3	He	0.032	ug/l	426.25
Fe	56	72	2	H2	0.942	ug/l	31316.33
Fe	56	72	3	He	0.952	ug/l	22334.38
Co	59	72	1	No Gas	0.026	ug/l	1144.44
Ni	60	72	1	No Gas	0.076	ug/l	1091.22
Ni	60	72	3	He	0.099	ug/l	426.68
Cu	63	72	1	No Gas	0.059	ug/l	2381.15
Cu	63	72	3	He	0.067	ug/l	815.86
Cu	65	72	1	No Gas	0.081	ug/l	989.10
Zn	66	72	1	No Gas	0.785	ug/l	3069.55
Zn	66	72	3	He	0.744	ug/l	772.25
As	75	72	1	No Gas	0.572	ug/l	21030.29
As	75	72	3	He	0.049	ug/l	1216.76
Se	78	72	2	H2	0.029	ug/l	59.00
Br	79	72	1	No Gas	5.543	ug/l	61322.05
Br	79	72	2	H2	4.699	ug/l	38745.06
Se	82	72	1	No Gas	-0.375	ug/l	648.08
Kr	84	72	1	No Gas		ug/l	19344.76
Sr	88	72	1	No Gas	0.031	ug/l	841.70
Sr	88	72	3	He	0.020	ug/l	188.89
Mo	95	115	1	No Gas	0.039	ug/l	174.45
Mo	95	115	3	He	0.035	ug/l	65.55
Mo	98	115	1	No Gas	0.032	ug/l	232.16
Ag	107	115	1	No Gas	0.015	ug/l	812.35
Ag	109	115	1	No Gas	0.019	ug/l	760.33
Cd	111	115	1	No Gas	0.015	ug/l	40.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.031	ug/l	33.33
Cd	114	115	1	No Gas	0.014	ug/l	18.61
Cd	114	115	3	He	0.031	ug/l	71.73
Sn	118	115	1	No Gas	0.121	ug/l	1653.50
Sn	118	115	3	He	0.164	ug/l	647.79
Sb	121	115	1	No Gas	0.044	ug/l	511.39
Sb	121	115	3	He	0.041	ug/l	183.69
Sb	123	115	1	No Gas	0.044	ug/l	378.71
Sb	123	115	3	He	0.038	ug/l	129.01
Ba	135	115	1	No Gas	0.039	ug/l	76.51
Ba	137	115	1	No Gas	0.020	ug/l	103.13
La	139	115	3	He	48.363	ug/l	34.44
Ce	140	115	3	He	0.018	ug/l	43.33
Hg	201	209	1	No Gas	0.000	ug/l	9.67
Hg	202	209	1	No Gas	-0.023	ug/l	13.33
Hg	202	209	3	He	0.000	ug/l	4.33
Tl	203	209	3	He	0.026	ug/l	134.72
Tl	205	209	1	No Gas	0.027	ug/l	530.02
Tl	205	209	3	He	0.027	ug/l	315.46
[Pb]	206	209	1	No Gas	0.024	ug/l	188.89
[Pb]	207	209	1	No Gas	0.038	ug/l	181.12
Pb	208	209	1	No Gas	0.034	ug/l	804.46
Th	232	209	3	He	0.016	ug/l	143.39
U	238	209	1	No Gas	0.028	ug/l	286.28

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2730650.41	101.5
Sc	45	2	H2	1573224.53	98.7
Sc	45	3	He	228380.71	101.0
Ge	72	1	No Gas	653083.50	100.1
Ge	72	2	H2	551883.16	99.2
Ge	72	3	He	126389.23	100.7
In	115	1	No Gas	3096029.17	100.7
In	115	3	He	956292.92	99.8
Tb	159	1	No Gas	2716191.07	101.9
Tb	159	3	He	1477811.81	97.9
Ho	165	1	No Gas	2471408.36	102.7
Ho	165	3	He	1362591.93	98.0
Lu	175	1	No Gas	2247142.77	100.2
Lu	175	3	He	1106415.92	101.6
Bi	209	1	No Gas	1446102.69	101.2
Bi	209	3	He	870654.71	100.3

ICPMS207-B Analytical Data

Sample Name	0.05 ppb STD
File Name	005CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:20:10
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	0.370	ug/l	13647.59
Be	9	45	1	No Gas	0.045	ug/l	373.26
B	11	45	1	No Gas	-0.132	ug/l	1954.25
Na	23	45	3	He	13.601	ug/l	65847.59
Mg	24	45	3	He	14.748	ug/l	7094.28
Al	27	45	1	No Gas	0.065	ug/l	10652.72
Si	28	45	2	H2	-1.918	ug/l	28361.45
K	39	72	3	He	12.965	ug/l	165002.73
Ca	40	72	2	H2	13.555	ug/l	311430.75
Ti	47	72	1	No Gas	0.012	ug/l	659.01
V	51	72	1	No Gas	2.138	ug/l	-21932.94
V	51	72	3	He	0.503	ug/l	32529.18
Cr	52	72	1	No Gas	0.364	ug/l	98117.31
Cr	52	72	3	He	-0.013	ug/l	4901.95
Mn	55	72	1	No Gas	0.078	ug/l	10939.07
Mn	55	72	3	He	0.056	ug/l	479.58
Fe	56	72	2	H2	1.407	ug/l	37353.18
Fe	56	72	3	He	1.688	ug/l	24374.67
Co	59	72	1	No Gas	0.051	ug/l	1527.05
Ni	60	72	1	No Gas	0.076	ug/l	1071.25
Ni	60	72	3	He	0.071	ug/l	385.56
Cu	63	72	1	No Gas	0.054	ug/l	2291.10
Cu	63	72	3	He	0.054	ug/l	763.54
Cu	65	72	1	No Gas	0.079	ug/l	960.42
Zn	66	72	1	No Gas	0.118	ug/l	1089.86
Zn	66	72	3	He	0.133	ug/l	288.89
As	75	72	1	No Gas	-0.235	ug/l	17460.33
As	75	72	3	He	0.100	ug/l	1248.50
Se	78	72	2	H2	0.053	ug/l	72.22
Br	79	72	1	No Gas	5.613	ug/l	60533.07
Br	79	72	2	H2	4.891	ug/l	40526.20
Se	82	72	1	No Gas	0.185	ug/l	747.82
Kr	84	72	1	No Gas		ug/l	18924.94
Sr	88	72	1	No Gas	0.057	ug/l	1334.09
Sr	88	72	3	He	0.065	ug/l	334.45
Mo	95	115	1	No Gas	0.053	ug/l	232.23
Mo	95	115	3	He	0.045	ug/l	82.22
Mo	98	115	1	No Gas	0.050	ug/l	348.00
Ag	107	115	1	No Gas	0.020	ug/l	857.71
Ag	109	115	1	No Gas	0.028	ug/l	846.36
Cd	111	115	1	No Gas	0.045	ug/l	99.51

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.055	ug/l	52.00
Cd	114	115	1	No Gas	0.045	ug/l	154.60
Cd	114	115	3	He	0.055	ug/l	116.72
Sn	118	115	1	No Gas	0.248	ug/l	2325.59
Sn	118	115	3	He	0.265	ug/l	833.36
Sb	121	115	1	No Gas	0.051	ug/l	573.74
Sb	121	115	3	He	0.047	ug/l	202.69
Sb	123	115	1	No Gas	0.052	ug/l	435.38
Sb	123	115	3	He	0.056	ug/l	171.69
Ba	135	115	1	No Gas	0.062	ug/l	113.11
Ba	137	115	1	No Gas	0.041	ug/l	159.68
La	139	115	3	He	-2.392	ug/l	10.00
Ce	140	115	3	He	-0.001	ug/l	6.66
Hg	201	209	1	No Gas	0.000	ug/l	9.67
Hg	202	209	1	No Gas	-0.008	ug/l	17.33
Hg	202	209	3	He	0.024	ug/l	8.33
Tl	203	209	3	He	0.060	ug/l	210.09
Tl	205	209	1	No Gas	0.050	ug/l	714.47
Tl	205	209	3	He	0.059	ug/l	481.54
[Pb]	206	209	1	No Gas	0.039	ug/l	228.89
[Pb]	207	209	1	No Gas	0.037	ug/l	178.89
Pb	208	209	1	No Gas	0.041	ug/l	868.91
Th	232	209	3	He	0.031	ug/l	234.76
U	238	209	1	No Gas	0.050	ug/l	492.25

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2735614.86	101.7
Sc	45	2	H2	1585207.90	99.4
Sc	45	3	He	224552.89	99.3
Ge	72	1	No Gas	639602.89	98.0
Ge	72	2	H2	563733.72	101.4
Ge	72	3	He	125001.80	99.6
In	115	1	No Gas	3104277.65	100.9
In	115	3	He	959018.55	100.1
Tb	159	1	No Gas	2665772.60	100.0
Tb	159	3	He	1485491.19	98.4
Ho	165	1	No Gas	2396248.53	99.5
Ho	165	3	He	1388626.12	99.9
Lu	175	1	No Gas	2206022.69	98.4
Lu	175	3	He	1122682.58	103.1
Bi	209	1	No Gas	1432557.11	100.3
Bi	209	3	He	871938.20	100.4

ICPMS207-B Analytical Data

Sample Name	0.10 ppb STD
File Name	006CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:26:48
Sample Type	CalStd
Total Dilution	1.0000
Comment	ICPMS-6020B-Cal
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.997	ug/l	16866.09
Be	9	45	1	No Gas	0.160	ug/l	659.00
B	11	45	1	No Gas	-0.158	ug/l	1905.55
Na	23	45	3	He	28.328	ug/l	76067.56
Mg	24	45	3	He	29.481	ug/l	12680.22
Al	27	45	1	No Gas	0.099	ug/l	11038.55
Si	28	45	2	H2	-2.960	ug/l	26344.31
K	39	72	3	He	25.454	ug/l	169695.52
Ca	40	72	2	H2	28.574	ug/l	394221.99
Ti	47	72	1	No Gas	0.044	ug/l	724.08
V	51	72	1	No Gas	0.684	ug/l	-47402.43
V	51	72	3	He	0.528	ug/l	32377.78
Cr	52	72	1	No Gas	0.221	ug/l	98953.40
Cr	52	72	3	He	0.079	ug/l	5193.16
Mn	55	72	1	No Gas	0.114	ug/l	11957.82
Mn	55	72	3	He	0.099	ug/l	579.90
Fe	56	72	2	H2	2.952	ug/l	54520.20
Fe	56	72	3	He	3.423	ug/l	29565.95
Co	59	72	1	No Gas	0.103	ug/l	2425.40
Ni	60	72	1	No Gas	0.100	ug/l	1194.35
Ni	60	72	3	He	0.124	ug/l	450.01
Cu	63	72	1	No Gas	0.105	ug/l	2816.07
Cu	63	72	3	He	0.121	ug/l	972.51
Cu	65	72	1	No Gas	0.116	ug/l	1141.84
Zn	66	72	1	No Gas	0.122	ug/l	1132.88
Zn	66	72	3	He	0.152	ug/l	301.12
As	75	72	1	No Gas	0.023	ug/l	19011.03
As	75	72	3	He	0.149	ug/l	1282.83
Se	78	72	2	H2	0.098	ug/l	93.45
Br	79	72	1	No Gas	6.120	ug/l	65872.37
Br	79	72	2	H2	5.955	ug/l	45200.60
Se	82	72	1	No Gas	0.454	ug/l	828.62
Kr	84	72	1	No Gas		ug/l	19491.29
Sr	88	72	1	No Gas	0.110	ug/l	2432.06
Sr	88	72	3	He	0.115	ug/l	497.79
Mo	95	115	1	No Gas	0.108	ug/l	445.57
Mo	95	115	3	He	0.132	ug/l	222.22
Mo	98	115	1	No Gas	0.108	ug/l	700.58
Ag	107	115	1	No Gas	0.052	ug/l	1147.84
Ag	109	115	1	No Gas	0.048	ug/l	1007.78
Cd	111	115	1	No Gas	0.101	ug/l	205.76

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.109	ug/l	94.44
Cd	114	115	1	No Gas	0.105	ug/l	407.74
Cd	114	115	3	He	0.117	ug/l	230.62
Sn	118	115	1	No Gas	0.328	ug/l	2701.58
Sn	118	115	3	He	0.317	ug/l	915.59
Sb	121	115	1	No Gas	0.103	ug/l	1025.81
Sb	121	115	3	He	0.108	ug/l	381.38
Sb	123	115	1	No Gas	0.103	ug/l	764.43
Sb	123	115	3	He	0.110	ug/l	295.36
Ba	135	115	1	No Gas	0.098	ug/l	166.34
Ba	137	115	1	No Gas	0.099	ug/l	306.06
La	139	115	3	He	0.243	ug/l	11.11
Ce	140	115	3	He	0.002	ug/l	11.11
Hg	201	209	1	No Gas	-0.007	ug/l	8.67
Hg	202	209	1	No Gas	-0.012	ug/l	16.00
Hg	202	209	3	He	0.014	ug/l	6.67
Tl	203	209	3	He	0.105	ug/l	308.80
Tl	205	209	1	No Gas	0.106	ug/l	1160.06
Tl	205	209	3	He	0.108	ug/l	735.65
[Pb]	206	209	1	No Gas	0.112	ug/l	427.79
[Pb]	207	209	1	No Gas	0.110	ug/l	344.45
Pb	208	209	1	No Gas	0.109	ug/l	1601.16
Th	232	209	3	He	0.074	ug/l	506.88
U	238	209	1	No Gas	0.109	ug/l	1035.50

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2725670.27	101.3
Sc	45	2	H2	1562112.50	98.0
Sc	45	3	He	224813.66	99.5
Ge	72	1	No Gas	659170.20	101.0
Ge	72	2	H2	556522.15	100.1
Ge	72	3	He	124107.40	98.9
In	115	1	No Gas	3046566.86	99.1
In	115	3	He	947145.11	98.9
Tb	159	1	No Gas	2627472.90	98.6
Tb	159	3	He	1460253.35	96.7
Ho	165	1	No Gas	2332741.49	96.9
Ho	165	3	He	1370526.68	98.6
Lu	175	1	No Gas	2197107.16	98.0
Lu	175	3	He	1068844.94	98.2
Bi	209	1	No Gas	1412044.15	98.8
Bi	209	3	He	876329.67	100.9

ICPMS207-B Analytical Data

Sample Name	0.5 ppb STD
File Name	007CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:33:25
Sample Type	CalStd
Total Dilution	1.0000
Comment	ICPMS-6020B-Cal
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	6.487	ug/l	45794.92
Be	9	45	1	No Gas	0.523	ug/l	1568.77
B	11	45	1	No Gas	0.183	ug/l	2489.21
Na	23	45	3	He	140.184	ug/l	151767.61
Mg	24	45	3	He	145.713	ug/l	56186.65
Al	27	45	1	No Gas	0.554	ug/l	16822.83
Si	28	45	2	H2	-2.597	ug/l	26949.63
K	39	72	3	He	131.226	ug/l	219400.05
Ca	40	72	2	H2	132.753	ug/l	1003815.44
Ti	47	72	1	No Gas	0.629	ug/l	1496.69
V	51	72	1	No Gas	1.492	ug/l	-31445.07
V	51	72	3	He	1.100	ug/l	34290.84
Cr	52	72	1	No Gas	0.825	ug/l	105506.06
Cr	52	72	3	He	0.539	ug/l	6818.27
Mn	55	72	1	No Gas	0.599	ug/l	20596.97
Mn	55	72	3	He	0.564	ug/l	1692.09
Fe	56	72	2	H2	14.047	ug/l	182578.38
Fe	56	72	3	He	14.686	ug/l	64404.99
Co	59	72	1	No Gas	0.583	ug/l	10116.80
Ni	60	72	1	No Gas	0.594	ug/l	2974.43
Ni	60	72	3	He	0.571	ug/l	1015.60
Cu	63	72	1	No Gas	0.592	ug/l	6973.14
Cu	63	72	3	He	0.616	ug/l	2550.38
Cu	65	72	1	No Gas	0.614	ug/l	3119.60
Zn	66	72	1	No Gas	0.804	ug/l	3076.01
Zn	66	72	3	He	0.805	ug/l	805.58
As	75	72	1	No Gas	0.994	ug/l	22427.46
As	75	72	3	He	0.612	ug/l	1694.67
Se	78	72	2	H2	0.516	ug/l	300.11
Br	79	72	1	No Gas	5.962	ug/l	63222.32
Br	79	72	2	H2	5.624	ug/l	43926.02
Se	82	72	1	No Gas	1.359	ug/l	994.24
Kr	84	72	1	No Gas		ug/l	20580.53
Sr	88	72	1	No Gas	0.569	ug/l	11371.99
Sr	88	72	3	He	0.544	ug/l	1902.36
Mo	95	115	1	No Gas	0.496	ug/l	1953.48
Mo	95	115	3	He	0.506	ug/l	823.36
Mo	98	115	1	No Gas	0.504	ug/l	3125.23
Ag	107	115	1	No Gas	0.214	ug/l	2676.00
Ag	109	115	1	No Gas	0.222	ug/l	2537.92
Cd	111	115	1	No Gas	0.530	ug/l	1030.14

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.554	ug/l	441.89
Cd	114	115	1	No Gas	0.535	ug/l	2220.13
Cd	114	115	3	He	0.548	ug/l	1021.79
Sn	118	115	1	No Gas	0.670	ug/l	4431.94
Sn	118	115	3	He	0.741	ug/l	1667.89
Sb	121	115	1	No Gas	0.503	ug/l	4544.86
Sb	121	115	3	He	0.508	ug/l	1568.92
Sb	123	115	1	No Gas	0.502	ug/l	3381.08
Sb	123	115	3	He	0.514	ug/l	1226.51
Ba	135	115	1	No Gas	0.565	ug/l	868.31
Ba	137	115	1	No Gas	0.517	ug/l	1384.00
La	139	115	3	He	2.750	ug/l	12.22
Ce	140	115	3	He	0.013	ug/l	33.33
Hg	201	209	1	No Gas	0.002	ug/l	9.67
Hg	202	209	1	No Gas	-0.011	ug/l	16.00
Hg	202	209	3	He	-0.004	ug/l	3.67
Tl	203	209	3	He	0.504	ug/l	1161.19
Tl	205	209	1	No Gas	0.499	ug/l	4320.73
Tl	205	209	3	He	0.538	ug/l	2930.17
[Pb]	206	209	1	No Gas	0.529	ug/l	1560.10
[Pb]	207	209	1	No Gas	0.558	ug/l	1368.97
Pb	208	209	1	No Gas	0.543	ug/l	6232.84
Th	232	209	3	He	0.450	ug/l	2842.79
U	238	209	1	No Gas	0.504	ug/l	4644.24

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2746339.45	102.1
Sc	45	2	H2	1564634.98	98.1
Sc	45	3	He	222936.91	98.6
Ge	72	1	No Gas	643242.58	98.6
Ge	72	2	H2	560997.95	100.9
Ge	72	3	He	124125.72	98.9
In	115	1	No Gas	3016738.23	98.1
In	115	3	He	941831.22	98.3
Tb	159	1	No Gas	2668219.38	100.1
Tb	159	3	He	1477710.58	97.9
Ho	165	1	No Gas	2390827.75	99.3
Ho	165	3	He	1355370.97	97.5
Lu	175	1	No Gas	2176868.12	97.1
Lu	175	3	He	1060063.07	97.3
Bi	209	1	No Gas	1397601.04	97.8
Bi	209	3	He	864237.61	99.6

ICPMS207-B Analytical Data

Sample Name	1 ppb STD
File Name	008CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:40:03
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	13.913	ug/l	85307.13
Be	9	45	1	No Gas	1.086	ug/l	2991.37
B	11	45	1	No Gas	0.752	ug/l	3462.46
Na	23	45	3	He	292.012	ug/l	259057.08
Mg	24	45	3	He	291.494	ug/l	112462.17
Al	27	45	1	No Gas	1.142	ug/l	24337.60
Si	28	45	2	H2	-0.017	ug/l	30181.76
K	39	72	3	He	279.960	ug/l	294159.72
Ca	40	72	2	H2	284.713	ug/l	1841654.42
Ti	47	72	1	No Gas	1.101	ug/l	2149.00
V	51	72	1	No Gas	2.197	ug/l	-21884.92
V	51	72	3	He	2.004	ug/l	37937.58
Cr	52	72	1	No Gas	1.602	ug/l	117728.13
Cr	52	72	3	He	1.159	ug/l	9159.55
Mn	55	72	1	No Gas	1.172	ug/l	31377.88
Mn	55	72	3	He	1.160	ug/l	3173.05
Fe	56	72	2	H2	30.257	ug/l	359971.15
Fe	56	72	3	He	30.198	ug/l	114311.00
Co	59	72	1	No Gas	1.192	ug/l	20063.95
Ni	60	72	1	No Gas	1.175	ug/l	5150.81
Ni	60	72	3	He	1.242	ug/l	1895.69
Cu	63	72	1	No Gas	1.220	ug/l	12493.70
Cu	63	72	3	He	1.281	ug/l	4750.83
Cu	65	72	1	No Gas	1.223	ug/l	5606.67
Zn	66	72	1	No Gas	1.382	ug/l	4769.29
Zn	66	72	3	He	1.430	ug/l	1308.96
As	75	72	1	No Gas	1.422	ug/l	24201.96
As	75	72	3	He	1.225	ug/l	2277.26
Se	78	72	2	H2	1.142	ug/l	594.35
Br	79	72	1	No Gas	6.340	ug/l	66069.87
Br	79	72	2	H2	6.051	ug/l	44880.48
Se	82	72	1	No Gas	1.329	ug/l	995.71
Kr	84	72	1	No Gas		ug/l	20457.20
Sr	88	72	1	No Gas	1.151	ug/l	22926.33
Sr	88	72	3	He	1.155	ug/l	3969.46
Mo	95	115	1	No Gas	1.058	ug/l	4256.22
Mo	95	115	3	He	1.107	ug/l	1819.02
Mo	98	115	1	No Gas	1.010	ug/l	6397.73
Ag	107	115	1	No Gas	0.426	ug/l	4805.42
Ag	109	115	1	No Gas	0.431	ug/l	4505.19
Cd	111	115	1	No Gas	1.059	ug/l	2102.98

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.136	ug/l	911.59
Cd	114	115	1	No Gas	1.049	ug/l	4513.20
Cd	114	115	3	He	1.127	ug/l	2117.81
Sn	118	115	1	No Gas	1.363	ug/l	8209.48
Sn	118	115	3	He	1.375	ug/l	2840.31
Sb	121	115	1	No Gas	1.038	ug/l	9509.17
Sb	121	115	3	He	1.070	ug/l	3288.05
Sb	123	115	1	No Gas	1.039	ug/l	7103.51
Sb	123	115	3	He	1.076	ug/l	2560.83
Ba	135	115	1	No Gas	1.015	ug/l	1590.28
Ba	137	115	1	No Gas	1.075	ug/l	2901.23
La	139	115	3	He	48.327	ug/l	34.44
Ce	140	115	3	He	0.019	ug/l	44.44
Hg	201	209	1	No Gas	-0.009	ug/l	8.33
Hg	202	209	1	No Gas	-0.004	ug/l	18.00
Hg	202	209	3	He	0.014	ug/l	6.67
Tl	203	209	3	He	1.088	ug/l	2423.87
Tl	205	209	1	No Gas	1.095	ug/l	9168.77
Tl	205	209	3	He	1.119	ug/l	5933.05
[Pb]	206	209	1	No Gas	1.084	ug/l	3087.05
[Pb]	207	209	1	No Gas	1.116	ug/l	2653.62
Pb	208	209	1	No Gas	1.106	ug/l	12316.81
Th	232	209	3	He	0.962	ug/l	6055.19
U	238	209	1	No Gas	1.057	ug/l	9738.69

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2765097.35	102.8
Sc	45	2	H2	1533026.70	96.1
Sc	45	3	He	226104.60	100.0
Ge	72	1	No Gas	647200.50	99.2
Ge	72	2	H2	547548.84	98.5
Ge	72	3	He	126262.14	100.6
In	115	1	No Gas	3097899.70	100.7
In	115	3	He	956460.37	99.9
Tb	159	1	No Gas	2645377.24	99.3
Tb	159	3	He	1512143.77	100.2
Ho	165	1	No Gas	2395475.34	99.5
Ho	165	3	He	1356590.62	97.6
Lu	175	1	No Gas	2222317.16	99.1
Lu	175	3	He	1092250.05	100.3
Bi	209	1	No Gas	1401224.30	98.1
Bi	209	3	He	868179.66	100.0

ICPMS207-B Analytical Data

Sample Name	10 ppb STD
File Name	009CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:46:40
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	140.381	ug/l	743548.63
Be	9	45	1	No Gas	10.934	ug/l	27359.09
B	11	45	1	No Gas	10.712	ug/l	19947.10
Na	23	45	3	He	2825.859	ug/l	2025778.48
Mg	24	45	3	He	2804.210	ug/l	1075493.32
Al	27	45	1	No Gas	11.007	ug/l	146846.20
Si	28	45	2	H2	36.674	ug/l	88203.16
K	39	72	3	He	2722.951	ug/l	1460755.45
Ca	40	72	2	H2	2660.536	ug/l	15628843.71
Ti	47	72	1	No Gas	10.945	ug/l	15797.66
V	51	72	1	No Gas	13.754	ug/l	174005.68
V	51	72	3	He	12.485	ug/l	73392.77
Cr	52	72	1	No Gas	11.538	ug/l	270572.80
Cr	52	72	3	He	11.305	ug/l	45601.49
Mn	55	72	1	No Gas	11.329	ug/l	223602.40
Mn	55	72	3	He	11.363	ug/l	28019.99
Fe	56	72	2	H2	285.685	ug/l	3287925.49
Fe	56	72	3	He	288.712	ug/l	927473.73
Co	59	72	1	No Gas	11.274	ug/l	186749.13
Ni	60	72	1	No Gas	11.087	ug/l	42513.90
Ni	60	72	3	He	11.885	ug/l	15585.01
Cu	63	72	1	No Gas	11.513	ug/l	104069.80
Cu	63	72	3	He	12.115	ug/l	39876.05
Cu	65	72	1	No Gas	11.558	ug/l	48294.97
Zn	66	72	1	No Gas	12.263	ug/l	37018.61
Zn	66	72	3	He	12.383	ug/l	9898.95
As	75	72	1	No Gas	12.752	ug/l	69808.64
As	75	72	3	He	11.197	ug/l	11286.26
Se	78	72	2	H2	10.946	ug/l	5416.79
Br	79	72	1	No Gas	6.083	ug/l	65494.52
Br	79	72	2	H2	5.836	ug/l	44713.53
Se	82	72	1	No Gas	11.177	ug/l	3080.83
Kr	84	72	1	No Gas		ug/l	21020.27
Sr	88	72	1	No Gas	11.279	ug/l	226346.46
Sr	88	72	3	He	11.168	ug/l	37326.29
Mo	95	115	1	No Gas	10.363	ug/l	40464.95
Mo	95	115	3	He	10.515	ug/l	17224.88
Mo	98	115	1	No Gas	10.111	ug/l	62141.30
Ag	107	115	1	No Gas	4.258	ug/l	41011.44
Ag	109	115	1	No Gas	4.184	ug/l	37608.80
Cd	111	115	1	No Gas	10.783	ug/l	20782.32

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.941	ug/l	8714.67
Cd	114	115	1	No Gas	10.571	ug/l	44711.34
Cd	114	115	3	He	11.146	ug/l	20852.52
Sn	118	115	1	No Gas	10.851	ug/l	56805.38
Sn	118	115	3	He	11.191	ug/l	20638.58
Sb	121	115	1	No Gas	10.299	ug/l	91070.11
Sb	121	115	3	He	10.545	ug/l	31930.93
Sb	123	115	1	No Gas	10.352	ug/l	68305.48
Sb	123	115	3	He	10.619	ug/l	24933.17
Ba	135	115	1	No Gas	10.420	ug/l	15761.10
Ba	137	115	1	No Gas	10.767	ug/l	27896.09
La	139	115	3	He	34.187	ug/l	27.78
Ce	140	115	3	He	0.019	ug/l	45.56
Hg	201	209	1	No Gas	-0.011	ug/l	8.00
Hg	202	209	1	No Gas	-0.016	ug/l	14.67
Hg	202	209	3	He	0.002	ug/l	4.67
Tl	203	209	3	He	10.693	ug/l	23071.16
Tl	205	209	1	No Gas	10.601	ug/l	86054.39
Tl	205	209	3	He	10.703	ug/l	55130.98
[Pb]	206	209	1	No Gas	10.819	ug/l	29683.30
[Pb]	207	209	1	No Gas	11.089	ug/l	25521.29
Pb	208	209	1	No Gas	10.817	ug/l	116596.18
Th	232	209	3	He	10.213	ug/l	63736.55
U	238	209	1	No Gas	10.372	ug/l	95159.04

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2727190.40	101.4
Sc	45	2	H2	1575307.89	98.8
Sc	45	3	He	227532.86	100.7
Ge	72	1	No Gas	658134.74	100.9
Ge	72	2	H2	557645.94	100.3
Ge	72	3	He	126306.61	100.6
In	115	1	No Gas	3020773.87	98.2
In	115	3	He	957654.49	100.0
Tb	159	1	No Gas	2637677.43	99.0
Tb	159	3	He	1477230.02	97.8
Ho	165	1	No Gas	2326159.12	96.6
Ho	165	3	He	1380542.54	99.3
Lu	175	1	No Gas	2175339.27	97.0
Lu	175	3	He	1118755.02	102.7
Bi	209	1	No Gas	1398154.83	97.8
Bi	209	3	He	866387.70	99.8

ICPMS207-B Analytical Data

Sample Name	50 ppb STD
File Name	010CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:53:18
Sample Type	CalStd
Total Dilution	1.0000
Comment	ICPMS-6020B-Cal
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	633.873	ug/l	3356148.13
Be	9	45	1	No Gas	51.895	ug/l	130420.64
B	11	45	1	No Gas	52.271	ug/l	89993.40
Na	23	45	3	He	12784.352	ug/l	9121495.28
Mg	24	45	3	He	12619.348	ug/l	4918861.36
Al	27	45	1	No Gas	51.980	ug/l	664815.85
Si	28	45	2	H2	207.830	ug/l	355779.86
K	39	72	3	He	12539.441	ug/l	6243851.72
Ca	40	72	2	H2	12348.503	ug/l	73075119.21
Ti	47	72	1	No Gas	52.289	ug/l	74047.10
V	51	72	1	No Gas	57.282	ug/l	929548.73
V	51	72	3	He	52.793	ug/l	213010.75
Cr	52	72	1	No Gas	53.974	ug/l	927755.71
Cr	52	72	3	He	53.241	ug/l	199230.66
Mn	55	72	1	No Gas	53.764	ug/l	1039267.31
Mn	55	72	3	He	53.543	ug/l	132760.05
Fe	56	72	2	H2	1311.044	ug/l	15301744.12
Fe	56	72	3	He	1341.179	ug/l	4304447.37
Co	59	72	1	No Gas	53.391	ug/l	894454.06
Ni	60	72	1	No Gas	52.523	ug/l	201158.54
Ni	60	72	3	He	55.014	ug/l	72145.88
Cu	63	72	1	No Gas	54.545	ug/l	492974.58
Cu	63	72	3	He	55.428	ug/l	183114.15
Cu	65	72	1	No Gas	54.371	ug/l	227962.32
Zn	66	72	1	No Gas	53.863	ug/l	162290.84
Zn	66	72	3	He	54.096	ug/l	43270.66
As	75	72	1	No Gas	55.829	ug/l	244870.97
As	75	72	3	He	52.921	ug/l	49739.06
Se	78	72	2	H2	52.590	ug/l	26344.67
Br	79	72	1	No Gas	-0.190	ug/l	23019.42
Br	79	72	2	H2	-0.128	ug/l	15847.31
Se	82	72	1	No Gas	52.702	ug/l	11979.15
Kr	84	72	1	No Gas		ug/l	28238.24
Sr	88	72	1	No Gas	53.906	ug/l	1096476.48
Sr	88	72	3	He	53.315	ug/l	180514.74
Mo	95	115	1	No Gas	51.539	ug/l	199215.56
Mo	95	115	3	He	51.641	ug/l	84675.16
Mo	98	115	1	No Gas	51.260	ug/l	311853.56
Ag	107	115	1	No Gas	20.467	ug/l	192789.69
Ag	109	115	1	No Gas	20.301	ug/l	178513.05
Cd	111	115	1	No Gas	52.395	ug/l	99955.11

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.209	ug/l	42401.81
Cd	114	115	1	No Gas	51.541	ug/l	216030.96
Cd	114	115	3	He	53.308	ug/l	99802.06
Sn	118	115	1	No Gas	51.968	ug/l	265722.53
Sn	118	115	3	He	53.321	ug/l	97127.46
Sb	121	115	1	No Gas	51.034	ug/l	446439.80
Sb	121	115	3	He	52.421	ug/l	158704.95
Sb	123	115	1	No Gas	51.446	ug/l	335835.43
Sb	123	115	3	He	52.460	ug/l	123175.12
Ba	135	115	1	No Gas	52.522	ug/l	78591.97
Ba	137	115	1	No Gas	52.230	ug/l	133800.92
La	139	115	3	He	45.875	ug/l	33.33
Ce	140	115	3	He	251.970	ug/l	491550.64
Hg	201	209	1	No Gas	4.990	ug/l	611.89
Hg	202	209	1	No Gas	5.034	ug/l	1362.47
Hg	202	209	3	He	4.984	ug/l	814.20
Tl	203	209	3	He	50.608	ug/l	108865.63
Tl	205	209	1	No Gas	50.720	ug/l	407993.88
Tl	205	209	3	He	50.286	ug/l	258345.87
[Pb]	206	209	1	No Gas	51.375	ug/l	139591.95
[Pb]	207	209	1	No Gas	52.672	ug/l	120078.61
Pb	208	209	1	No Gas	52.342	ug/l	558928.30
Th	232	209	3	He	49.677	ug/l	309754.92
U	238	209	1	No Gas	50.311	ug/l	458616.95

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2761072.98	102.6
Sc	45	2	H2	1581497.89	99.2
Sc	45	3	He	231524.73	102.4
Ge	72	1	No Gas	667458.80	102.3
Ge	72	2	H2	568315.28	102.2
Ge	72	3	He	128246.28	102.2
In	115	1	No Gas	2991815.75	97.3
In	115	3	He	958834.89	100.1
Tb	159	1	No Gas	2642268.97	99.1
Tb	159	3	He	1503908.48	99.6
Ho	165	1	No Gas	2363933.69	98.2
Ho	165	3	He	1368564.64	98.4
Lu	175	1	No Gas	2236773.52	99.8
Lu	175	3	He	1109200.93	101.9
Bi	209	1	No Gas	1389238.79	97.2
Bi	209	3	He	866055.27	99.8

ICPMS207-B Analytical Data

Sample Name	100 ppb STD
File Name	011CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 12:59:53
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	1206.130	ug/l	6593815.04
Be	9	45	1	No Gas	99.195	ug/l	257565.88
B	11	45	1	No Gas	98.864	ug/l	174015.26
Na	23	45	3	He	24738.301	ug/l	18406175.01
Mg	24	45	3	He	24201.891	ug/l	9866473.76
Al	27	45	1	No Gas	96.666	ug/l	1269836.27
Si	28	45	2	H2	396.485	ug/l	656406.80
K	39	72	3	He	24464.288	ug/l	12501164.82
Ca	40	72	2	H2	23622.295	ug/l	142774869.84
Ti	47	72	1	No Gas	98.760	ug/l	143402.24
V	51	72	1	No Gas	96.978	ug/l	1664219.01
V	51	72	3	He	99.272	ug/l	387360.02
Cr	52	72	1	No Gas	98.720	ug/l	1664723.97
Cr	52	72	3	He	100.643	ug/l	386742.28
Mn	55	72	1	No Gas	99.435	ug/l	1970705.46
Mn	55	72	3	He	102.719	ug/l	264381.91
Fe	56	72	2	H2	2534.091	ug/l	30228892.00
Fe	56	72	3	He	2555.936	ug/l	8507403.57
Co	59	72	1	No Gas	97.279	ug/l	1677814.26
Ni	60	72	1	No Gas	99.230	ug/l	390640.16
Ni	60	72	3	He	103.854	ug/l	141281.86
Cu	63	72	1	No Gas	101.858	ug/l	946355.75
Cu	63	72	3	He	104.811	ug/l	359314.72
Cu	65	72	1	No Gas	103.415	ug/l	445894.32
Zn	66	72	1	No Gas	100.047	ug/l	309732.75
Zn	66	72	3	He	103.774	ug/l	86097.34
As	75	72	1	No Gas	104.593	ug/l	455206.98
As	75	72	3	He	100.980	ug/l	97524.45
Se	78	72	2	H2	100.104	ug/l	51256.68
Br	79	72	1	No Gas	6.007	ug/l	67844.07
Br	79	72	2	H2	6.154	ug/l	48211.42
Se	82	72	1	No Gas	100.898	ug/l	22913.46
Kr	84	72	1	No Gas		ug/l	36413.66
Sr	88	72	1	No Gas	99.036	ug/l	2074356.26
Sr	88	72	3	He	100.020	ug/l	351891.45
Mo	95	115	1	No Gas	99.194	ug/l	382705.13
Mo	95	115	3	He	99.127	ug/l	167837.74
Mo	98	115	1	No Gas	99.359	ug/l	603249.32
Ag	107	115	1	No Gas	39.740	ug/l	373052.10
Ag	109	115	1	No Gas	39.831	ug/l	349155.54
Cd	111	115	1	No Gas	102.476	ug/l	195143.80

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	99.941	ug/l	82240.53
Cd	114	115	1	No Gas	101.160	ug/l	423273.32
Cd	114	115	3	He	101.222	ug/l	195685.36
Sn	118	115	1	No Gas	98.926	ug/l	504018.22
Sn	118	115	3	He	98.215	ug/l	184449.08
Sb	121	115	1	No Gas	99.453	ug/l	868522.21
Sb	121	115	3	He	98.734	ug/l	308631.40
Sb	123	115	1	No Gas	99.241	ug/l	646649.98
Sb	123	115	3	He	98.707	ug/l	239300.18
Ba	135	115	1	No Gas	102.837	ug/l	153582.04
Ba	137	115	1	No Gas	102.732	ug/l	262681.94
La	139	115	3	He	99.148	ug/l	61.11
Ce	140	115	3	He	0.025	ug/l	58.89
Hg	201	209	1	No Gas	0.027	ug/l	13.00
Hg	202	209	1	No Gas	0.005	ug/l	21.00
Hg	202	209	3	He	0.028	ug/l	9.00
Tl	203	209	3	He	98.676	ug/l	214540.00
Tl	205	209	1	No Gas	97.236	ug/l	809393.44
Tl	205	209	3	He	98.075	ug/l	509264.79
[Pb]	206	209	1	No Gas	99.230	ug/l	279084.52
[Pb]	207	209	1	No Gas	98.554	ug/l	232589.43
Pb	208	209	1	No Gas	98.746	ug/l	1091318.27
Th	232	209	3	He	97.307	ug/l	613399.42
U	238	209	1	No Gas	96.382	ug/l	909491.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2854473.42	106.1
Sc	45	2	H2	1596282.96	100.1
Sc	45	3	He	242170.30	107.1
Ge	72	1	No Gas	687244.99	105.3
Ge	72	2	H2	581470.45	104.6
Ge	72	3	He	133297.62	106.2
In	115	1	No Gas	2986933.16	97.1
In	115	3	He	990207.61	103.4
Tb	159	1	No Gas	2743846.30	102.9
Tb	159	3	He	1527026.14	101.1
Ho	165	1	No Gas	2440562.45	101.4
Ho	165	3	He	1452273.58	104.5
Lu	175	1	No Gas	2229734.40	99.5
Lu	175	3	He	1175697.68	108.0
Bi	209	1	No Gas	1437926.99	100.6
Bi	209	3	He	875625.30	100.9

ICPMS207-B Analytical Data

Sample Name	1000 ppb STD
File Name	012CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:06:27
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	2518.940	ug/l	13650989.75
Be	9	45	1	No Gas	999.976	ug/l	2573861.10
B	11	45	1	No Gas	999.993	ug/l	1725846.82
Na	23	45	3	He	50043.218	ug/l	37225520.00
Mg	24	45	3	He	50353.745	ug/l	20551957.86
Al	27	45	1	No Gas	1000.224	ug/l	12941835.92
Si	28	45	2	H2	-3.956	ug/l	25576.03
K	39	72	3	He	50246.683	ug/l	25970737.95
Ca	40	72	2	H2	50718.505	ug/l	306459695.57
Ti	47	72	1	No Gas	5.065	ug/l	7995.22
V	51	72	1	No Gas	999.899	ug/l	17705149.21
V	51	72	3	He	999.907	ug/l	3670955.53
Cr	52	72	1	No Gas	999.913	ug/l	15923141.11
Cr	52	72	3	He	999.760	ug/l	3866820.74
Mn	55	72	1	No Gas	999.855	ug/l	19681919.17
Mn	55	72	3	He	999.537	ug/l	2618074.67
Fe	56	72	2	H2	6025.034	ug/l	71895992.63
Fe	56	72	3	He	6008.906	ug/l	20354555.92
Co	59	72	1	No Gas	1000.090	ug/l	17203619.04
Ni	60	72	1	No Gas	999.940	ug/l	3920666.11
Ni	60	72	3	He	999.345	ug/l	1382334.65
Cu	63	72	1	No Gas	999.572	ug/l	9250481.07
Cu	63	72	3	He	999.226	ug/l	3484734.35
Cu	65	72	1	No Gas	999.424	ug/l	4294676.14
Zn	66	72	1	No Gas	999.779	ug/l	3081804.58
Zn	66	72	3	He	999.393	ug/l	843020.07
As	75	72	1	No Gas	999.221	ug/l	4170928.02
As	75	72	3	He	999.744	ug/l	972559.48
Se	78	72	2	H2	999.850	ug/l	511824.83
Br	79	72	1	No Gas	5.941	ug/l	67249.15
Br	79	72	2	H2	8.625	ug/l	60857.42
Se	82	72	1	No Gas	999.763	ug/l	219801.32
Kr	84	72	1	No Gas		ug/l	158408.03
Sr	88	72	1	No Gas	999.888	ug/l	20898842.43
Sr	88	72	3	He	999.820	ug/l	3581989.32
Mo	95	115	1	No Gas	0.081	ug/l	334.45
Mo	95	115	3	He	0.060	ug/l	111.11
Mo	98	115	1	No Gas	0.141	ug/l	895.66
Ag	107	115	1	No Gas	360.004	ug/l	3403787.27
Ag	109	115	1	No Gas	364.886	ug/l	3220014.33
Cd	111	115	1	No Gas	999.625	ug/l	1919560.10

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	999.836	ug/l	827287.30
Cd	114	115	1	No Gas	999.801	ug/l	4219437.31
Cd	114	115	3	He	999.701	ug/l	1943350.44
Sn	118	115	1	No Gas	0.280	ug/l	2425.40
Sn	118	115	3	He	0.253	ug/l	843.36
Sb	121	115	1	No Gas	0.195	ug/l	1823.30
Sb	121	115	3	He	0.174	ug/l	608.74
Sb	123	115	1	No Gas	0.219	ug/l	1515.57
Sb	123	115	3	He	0.182	ug/l	485.06
Ba	135	115	1	No Gas	999.586	ug/l	1505792.07
Ba	137	115	1	No Gas	999.608	ug/l	2577647.69
La	139	115	3	He	239.896	ug/l	132.22
Ce	140	115	3	He	0.118	ug/l	246.67
Hg	201	209	1	No Gas	-0.009	ug/l	8.33
Hg	202	209	1	No Gas	0.003	ug/l	20.00
Hg	202	209	3	He	0.015	ug/l	6.67
Tl	203	209	3	He	1000.095	ug/l	2126095.93
Tl	205	209	1	No Gas	1000.234	ug/l	8111810.78
Tl	205	209	3	He	1000.171	ug/l	5078330.80
[Pb]	206	209	1	No Gas	1006.420	ug/l	2756455.58
[Pb]	207	209	1	No Gas	1022.033	ug/l	2348972.62
Pb	208	209	1	No Gas	1025.346	ug/l	11037827.98
Th	232	209	3	He	1000.283	ug/l	6167763.47
U	238	209	1	No Gas	1000.343	ug/l	9199341.58

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2832563.67	105.3
Sc	45	2	H2	1610607.16	101.0
Sc	45	3	He	242551.26	107.3
Ge	72	1	No Gas	685964.70	105.1
Ge	72	2	H2	581692.53	104.6
Ge	72	3	He	135847.94	108.2
In	115	1	No Gas	3011807.21	97.9
In	115	3	He	995757.12	104.0
Tb	159	1	No Gas	2804718.84	105.2
Tb	159	3	He	1518532.80	100.6
Ho	165	1	No Gas	2507213.22	104.1
Ho	165	3	He	1416169.99	101.9
Lu	175	1	No Gas	2295797.12	102.4
Lu	175	3	He	1172841.85	107.7
Bi	209	1	No Gas	1402199.68	98.1
Bi	209	3	He	856639.64	98.7

ICPMS207-B Analytical Data

Sample Name	100 ppb Br STD
File Name	013CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:12:59
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	2.660	ug/l	26038.65
Be	9	45	1	No Gas	0.084	ug/l	477.58
B	11	45	1	No Gas	12.690	ug/l	23679.97
Na	23	45	3	He	28.864	ug/l	79174.46
Mg	24	45	3	He	6.384	ug/l	4082.47
Al	27	45	1	No Gas	0.254	ug/l	13226.99
Si	28	45	2	H2	-6.444	ug/l	21626.24
K	39	72	3	He	686.549	ug/l	492145.06
Ca	40	72	2	H2	12.164	ug/l	301327.75
Ti	47	72	1	No Gas	-0.070	ug/l	582.27
V	51	72	1	No Gas	2.215	ug/l	-21884.16
V	51	72	3	He	-0.656	ug/l	29169.96
Cr	52	72	1	No Gas	1.522	ug/l	122267.13
Cr	52	72	3	He	0.107	ug/l	5425.47
Mn	55	72	1	No Gas	0.471	ug/l	19264.45
Mn	55	72	3	He	0.121	ug/l	647.88
Fe	56	72	2	H2	0.990	ug/l	32309.47
Fe	56	72	3	He	1.679	ug/l	24790.77
Co	59	72	1	No Gas	0.125	ug/l	2874.59
Ni	60	72	1	No Gas	0.195	ug/l	1596.92
Ni	60	72	3	He	0.149	ug/l	494.46
Cu	63	72	1	No Gas	0.249	ug/l	4221.64
Cu	63	72	3	He	0.198	ug/l	1248.14
Cu	65	72	1	No Gas	0.222	ug/l	1626.75
Zn	66	72	1	No Gas	0.265	ug/l	1601.96
Zn	66	72	3	He	0.276	ug/l	407.78
As	75	72	1	No Gas	1.063	ug/l	23867.53
As	75	72	3	He	0.409	ug/l	1551.92
Se	78	72	2	H2	0.261	ug/l	173.89
Br	79	72	1	No Gas	100.000	ug/l	728682.54
Br	79	72	2	H2	100.000	ug/l	506852.35
Se	82	72	1	No Gas	2.036	ug/l	1196.80
Kr	84	72	1	No Gas		ug/l	21769.88
Sr	88	72	1	No Gas	0.172	ug/l	3775.87
Sr	88	72	3	He	0.136	ug/l	580.01
Mo	95	115	1	No Gas	0.027	ug/l	131.11
Mo	95	115	3	He	0.010	ug/l	25.56
Mo	98	115	1	No Gas	0.014	ug/l	122.64
Ag	107	115	1	No Gas	0.150	ug/l	2168.37
Ag	109	115	1	No Gas	0.152	ug/l	2014.29
Cd	111	115	1	No Gas	0.149	ug/l	312.33

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.142	ug/l	123.45
Cd	114	115	1	No Gas	0.141	ug/l	584.06
Cd	114	115	3	He	0.141	ug/l	280.86
Sn	118	115	1	No Gas	5.519	ug/l	30819.37
Sn	118	115	3	He	5.900	ug/l	11186.71
Sb	121	115	1	No Gas	0.050	ug/l	570.40
Sb	121	115	3	He	0.045	ug/l	198.02
Sb	123	115	1	No Gas	0.049	ug/l	426.05
Sb	123	115	3	He	0.049	ug/l	157.02
Ba	135	115	1	No Gas	0.143	ug/l	242.86
Ba	137	115	1	No Gas	0.111	ug/l	352.64
La	139	115	3	He	4.256	ug/l	13.33
Ce	140	115	3	He	0.007	ug/l	21.11
Hg	201	209	1	No Gas	-0.004	ug/l	9.33
Hg	202	209	1	No Gas	0.001	ug/l	20.00
Hg	202	209	3	He	0.017	ug/l	7.00
Tl	203	209	3	He	0.276	ug/l	661.62
Tl	205	209	1	No Gas	0.335	ug/l	3143.72
Tl	205	209	3	He	0.262	ug/l	1492.02
[Pb]	206	209	1	No Gas	0.204	ug/l	707.80
[Pb]	207	209	1	No Gas	0.216	ug/l	612.24
Pb	208	209	1	No Gas	0.208	ug/l	2772.36
Th	232	209	3	He	0.227	ug/l	1433.99
U	238	209	1	No Gas	0.139	ug/l	1360.47

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2778431.51	103.3
Sc	45	2	H2	1611272.76	101.0
Sc	45	3	He	232851.77	103.0
Ge	72	1	No Gas	678842.70	104.1
Ge	72	2	H2	559681.12	100.6
Ge	72	3	He	127267.10	101.4
In	115	1	No Gas	3170453.62	103.1
In	115	3	He	969744.27	101.3
Tb	159	1	No Gas	2746743.21	103.1
Tb	159	3	He	1488306.98	98.6
Ho	165	1	No Gas	2468940.91	102.6
Ho	165	3	He	1359179.21	97.8
Lu	175	1	No Gas	2289466.26	102.1
Lu	175	3	He	1098007.83	100.8
Bi	209	1	No Gas	1465498.11	102.6
Bi	209	3	He	852129.65	98.2

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	014BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:19:23
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	-0.123	ug/l	11163.91
Be	9	45	1	No Gas	-0.049	ug/l	142.30
B	11	45	1	No Gas	5.477	ug/l	11385.51
Na	23	45	3	He	-0.556	ug/l	57385.43
Mg	24	45	3	He	0.825	ug/l	1876.40
Al	27	45	1	No Gas	0.827	ug/l	20324.95
Si	28	45	2	H2	-7.860	ug/l	19050.51
K	39	72	3	He	50.454	ug/l	184411.89
Ca	40	72	2	H2	2.698	ug/l	242353.35
Ti	47	72	1	No Gas	-0.174	ug/l	425.43
V	51	72	1	No Gas	2.393	ug/l	-19254.94
V	51	72	3	He	-1.724	ug/l	25307.32
Cr	52	72	1	No Gas	0.243	ug/l	100135.85
Cr	52	72	3	He	-0.059	ug/l	4784.14
Mn	55	72	1	No Gas	0.224	ug/l	14165.45
Mn	55	72	3	He	-0.013	ug/l	317.61
Fe	56	72	2	H2	0.815	ug/l	29779.77
Fe	56	72	3	He	0.585	ug/l	21139.75
Co	59	72	1	No Gas	-0.008	ug/l	608.81
Ni	60	72	1	No Gas	0.062	ug/l	1057.95
Ni	60	72	3	He	0.019	ug/l	323.34
Cu	63	72	1	No Gas	0.038	ug/l	2235.74
Cu	63	72	3	He	0.032	ug/l	701.88
Cu	65	72	1	No Gas	0.037	ug/l	823.69
Zn	66	72	1	No Gas	-0.027	ug/l	697.38
Zn	66	72	3	He	-0.008	ug/l	181.12
As	75	72	1	No Gas	-0.565	ug/l	16850.73
As	75	72	3	He	0.020	ug/l	1187.43
Se	78	72	2	H2	0.054	ug/l	71.00
Br	79	72	1	No Gas	1.625	ug/l	35477.03
Br	79	72	2	H2	1.178	ug/l	21679.98
Se	82	72	1	No Gas	0.929	ug/l	937.97
Kr	84	72	1	No Gas		ug/l	21473.42
Sr	88	72	1	No Gas	0.005	ug/l	329.35
Sr	88	72	3	He	0.002	ug/l	130.00
Mo	95	115	1	No Gas	0.003	ug/l	32.22
Mo	95	115	3	He	0.006	ug/l	17.78
Mo	98	115	1	No Gas	0.001	ug/l	40.07
Ag	107	115	1	No Gas	0.005	ug/l	700.97
Ag	109	115	1	No Gas	0.001	ug/l	589.58
Cd	111	115	1	No Gas	0.010	ug/l	31.00

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.009	ug/l	15.45
Cd	114	115	1	No Gas	0.009	ug/l	-1.46
Cd	114	115	3	He	0.013	ug/l	37.14
Sn	118	115	1	No Gas	1.735	ug/l	10000.46
Sn	118	115	3	He	1.817	ug/l	3562.70
Sb	121	115	1	No Gas	0.020	ug/l	282.70
Sb	121	115	3	He	0.022	ug/l	122.68
Sb	123	115	1	No Gas	0.021	ug/l	218.69
Sb	123	115	3	He	0.024	ug/l	94.68
Ba	135	115	1	No Gas	0.002	ug/l	19.96
Ba	137	115	1	No Gas	-0.004	ug/l	39.92
La	139	115	3	He	-13.561	ug/l	4.45
Ce	140	115	3	He	0.008	ug/l	23.33
Hg	201	209	1	No Gas	0.015	ug/l	11.33
Hg	202	209	1	No Gas	-0.005	ug/l	17.67
Hg	202	209	3	He	0.004	ug/l	4.67
Tl	203	209	3	He	0.045	ug/l	167.40
Tl	205	209	1	No Gas	0.049	ug/l	691.13
Tl	205	209	3	He	0.047	ug/l	394.83
[Pb]	206	209	1	No Gas	0.015	ug/l	158.89
[Pb]	207	209	1	No Gas	0.021	ug/l	136.67
Pb	208	209	1	No Gas	0.021	ug/l	641.12
Th	232	209	3	He	0.020	ug/l	161.40
U	238	209	1	No Gas	0.006	ug/l	80.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2757730.78	102.5
Sc	45	2	H2	1583870.06	99.3
Sc	45	3	He	229654.18	101.6
Ge	72	1	No Gas	665126.71	102.0
Ge	72	2	H2	551057.86	99.1
Ge	72	3	He	126157.18	100.5
In	115	1	No Gas	3045752.31	99.0
In	115	3	He	935853.15	97.7
Tb	159	1	No Gas	2678892.97	100.5
Tb	159	3	He	1439309.89	95.3
Ho	165	1	No Gas	2389965.84	99.3
Ho	165	3	He	1331490.81	95.8
Lu	175	1	No Gas	2219127.38	99.0
Lu	175	3	He	1062149.50	97.5
Bi	209	1	No Gas	1404242.16	98.3
Bi	209	3	He	823932.19	94.9

ICPMS207-B Analytical Data

Sample Name	QCS
File Name	015_QC1.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:25:36
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	52.560	ug/l	285858.66
Be	9	45	1	No Gas	24.931	ug/l	62094.60
B	11	45	1	No Gas	56.741	ug/l	96419.61
Na	23	45	3	He	2621.877	ug/l	1929011.46
Mg	24	45	3	He	2644.738	ug/l	1038605.52
Al	27	45	1	No Gas	261.295	ug/l	3264929.26
Si	28	45	2	H2	503.187	ug/l	808905.74
K	39	72	3	He	2558.017	ug/l	1428984.04
Ca	40	72	2	H2	2492.239	ug/l	14922008.04
Ti	47	72	1	No Gas	48.831	ug/l	68565.45
V	51	72	1	No Gas	46.905	ug/l	743916.53
V	51	72	3	He	48.240	ug/l	200929.71
Cr	52	72	1	No Gas	51.762	ug/l	885682.32
Cr	52	72	3	He	50.631	ug/l	193153.85
Mn	55	72	1	No Gas	258.740	ug/l	4918826.33
Mn	55	72	3	He	258.382	ug/l	650883.79
Fe	56	72	2	H2	253.627	ug/l	2975218.68
Fe	56	72	3	He	253.792	ug/l	845424.23
Co	59	72	1	No Gas	51.151	ug/l	849166.65
Ni	60	72	1	No Gas	50.823	ug/l	192916.20
Ni	60	72	3	He	52.724	ug/l	70406.20
Cu	63	72	1	No Gas	53.192	ug/l	476464.88
Cu	63	72	3	He	53.944	ug/l	181449.73
Cu	65	72	1	No Gas	53.657	ug/l	222965.55
Zn	66	72	1	No Gas	51.258	ug/l	153091.55
Zn	66	72	3	He	51.146	ug/l	41658.28
As	75	72	1	No Gas	52.606	ug/l	229747.45
As	75	72	3	He	49.383	ug/l	47332.54
Se	78	72	2	H2	50.343	ug/l	25203.54
Br	79	72	1	No Gas	8.019	ug/l	79104.77
Br	79	72	2	H2	7.915	ug/l	55883.49
Se	82	72	1	No Gas	51.113	ug/l	11532.68
Kr	84	72	1	No Gas		ug/l	28861.98
Sr	88	72	1	No Gas	52.811	ug/l	1064500.55
Sr	88	72	3	He	50.000	ug/l	172359.90
Mo	95	115	1	No Gas	46.595	ug/l	183448.68
Mo	95	115	3	He	47.852	ug/l	79486.44
Mo	98	115	1	No Gas	46.654	ug/l	289183.84
Ag	107	115	1	No Gas	24.477	ug/l	234864.03
Ag	109	115	1	No Gas	24.388	ug/l	218456.49
Cd	111	115	1	No Gas	24.771	ug/l	48163.34

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	25.074	ug/l	20248.26
Cd	114	115	1	No Gas	24.558	ug/l	104851.47
Cd	114	115	3	He	25.379	ug/l	48146.64
Sn	118	115	1	No Gas	48.100	ug/l	250702.82
Sn	118	115	3	He	49.415	ug/l	91219.39
Sb	121	115	1	No Gas	46.488	ug/l	414642.57
Sb	121	115	3	He	48.142	ug/l	147655.67
Sb	123	115	1	No Gas	46.756	ug/l	311185.48
Sb	123	115	3	He	48.177	ug/l	114606.42
Ba	135	115	1	No Gas	49.077	ug/l	74866.03
Ba	137	115	1	No Gas	48.481	ug/l	126608.34
La	139	115	3	He	974307.925	ug/l	478583.73
Ce	140	115	3	He	252.189	ug/l	498427.48
Hg	201	209	1	No Gas	4.624	ug/l	589.23
Hg	202	209	1	No Gas	4.817	ug/l	1352.80
Hg	202	209	3	He	5.349	ug/l	876.52
Tl	203	209	3	He	49.019	ug/l	105798.36
Tl	205	209	1	No Gas	48.359	ug/l	403746.06
Tl	205	209	3	He	49.270	ug/l	253966.71
[Pb]	206	209	1	No Gas	47.942	ug/l	135230.53
[Pb]	207	209	1	No Gas	50.303	ug/l	119019.40
Pb	208	209	1	No Gas	49.056	ug/l	543636.17
Th	232	209	3	He	47.609	ug/l	297835.02
U	238	209	1	No Gas	50.079	ug/l	473681.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2729808.61	101.5
Sc	45	2	H2	1565962.97	98.2
Sc	45	3	He	232982.23	103.1
Ge	72	1	No Gas	661320.04	101.4
Ge	72	2	H2	567917.11	102.1
Ge	72	3	He	130567.30	104.0
In	115	1	No Gas	3049036.82	99.1
In	115	3	He	971413.78	101.4
Tb	159	1	No Gas	2671942.24	100.2
Tb	159	3	He	1479988.34	98.0
Ho	165	1	No Gas	2352796.57	97.7
Ho	165	3	He	1353687.52	97.4
Lu	175	1	No Gas	2163460.36	96.5
Lu	175	3	He	1093137.19	100.4
Bi	209	1	No Gas	1441320.71	100.9
Bi	209	3	He	868884.39	100.1

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	016_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:32:57
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	635.029	ug/l	3353577.19
Be	9	45	1	No Gas	51.648	ug/l	129464.07
B	11	45	1	No Gas	55.816	ug/l	95703.74
Na	23	45	3	He	12893.441	ug/l	9064655.42
Mg	24	45	3	He	12700.857	ug/l	4879128.69
Al	27	45	1	No Gas	52.480	ug/l	669351.36
Si	28	45	2	H2	203.543	ug/l	346105.83
K	39	72	3	He	12862.405	ug/l	6286496.16
Ca	40	72	2	H2	12364.780	ug/l	71821020.99
Ti	47	72	1	No Gas	51.684	ug/l	72955.85
V	51	72	1	No Gas	50.729	ug/l	814481.90
V	51	72	3	He	52.256	ug/l	207410.64
Cr	52	72	1	No Gas	52.723	ug/l	905476.47
Cr	52	72	3	He	54.611	ug/l	200616.19
Mn	55	72	1	No Gas	53.993	ug/l	1040022.24
Mn	55	72	3	He	54.645	ug/l	133073.86
Fe	56	72	2	H2	1321.392	ug/l	15140386.93
Fe	56	72	3	He	1347.291	ug/l	4247565.33
Co	59	72	1	No Gas	52.931	ug/l	883739.41
Ni	60	72	1	No Gas	52.332	ug/l	199755.97
Ni	60	72	3	He	54.551	ug/l	70261.97
Cu	63	72	1	No Gas	53.512	ug/l	482052.38
Cu	63	72	3	He	55.961	ug/l	181584.37
Cu	65	72	1	No Gas	54.596	ug/l	228154.52
Zn	66	72	1	No Gas	53.572	ug/l	160874.18
Zn	66	72	3	He	54.441	ug/l	42767.03
As	75	72	1	No Gas	55.459	ug/l	242469.91
As	75	72	3	He	52.999	ug/l	48924.47
Se	78	72	2	H2	52.363	ug/l	25751.05
Br	79	72	1	No Gas	0.296	ug/l	26328.66
Br	79	72	2	H2	0.125	ug/l	16789.91
Se	82	72	1	No Gas	52.543	ug/l	11903.43
Kr	84	72	1	No Gas		ug/l	30515.41
Sr	88	72	1	No Gas	52.935	ug/l	1073191.07
Sr	88	72	3	He	52.833	ug/l	175696.60
Mo	95	115	1	No Gas	51.176	ug/l	197830.51
Mo	95	115	3	He	52.280	ug/l	83736.15
Mo	98	115	1	No Gas	50.068	ug/l	304682.45
Ag	107	115	1	No Gas	19.987	ug/l	188335.53
Ag	109	115	1	No Gas	19.997	ug/l	175877.39
Cd	111	115	1	No Gas	51.235	ug/l	97768.30

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.869	ug/l	41156.73
Cd	114	115	1	No Gas	51.037	ug/l	213968.85
Cd	114	115	3	He	53.307	ug/l	97489.92
Sn	118	115	1	No Gas	51.600	ug/l	263911.29
Sn	118	115	3	He	52.428	ug/l	93299.94
Sb	121	115	1	No Gas	50.013	ug/l	437643.57
Sb	121	115	3	He	52.149	ug/l	154226.20
Sb	123	115	1	No Gas	50.530	ug/l	329933.85
Sb	123	115	3	He	52.934	ug/l	121410.71
Ba	135	115	1	No Gas	51.724	ug/l	77421.26
Ba	137	115	1	No Gas	51.410	ug/l	131742.75
La	139	115	3	He	49.856	ug/l	34.44
Ce	140	115	3	He	252.348	ug/l	480883.38
Hg	201	209	1	No Gas	4.943	ug/l	603.56
Hg	202	209	1	No Gas	5.093	ug/l	1371.13
Hg	202	209	3	He	5.216	ug/l	825.86
Tl	203	209	3	He	50.790	ug/l	105921.64
Tl	205	209	1	No Gas	50.677	ug/l	405677.66
Tl	205	209	3	He	50.301	ug/l	250533.74
[Pb]	206	209	1	No Gas	51.062	ug/l	138130.81
[Pb]	207	209	1	No Gas	52.840	ug/l	119896.62
Pb	208	209	1	No Gas	51.502	ug/l	547370.33
Th	232	209	3	He	49.871	ug/l	301464.19
U	238	209	1	No Gas	49.945	ug/l	453166.89

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2753008.07	102.3
Sc	45	2	H2	1568162.93	98.3
Sc	45	3	He	228177.99	100.9
Ge	72	1	No Gas	665355.85	102.0
Ge	72	2	H2	557902.16	100.3
Ge	72	3	He	125988.16	100.4
In	115	1	No Gas	2992929.81	97.3
In	115	3	He	936673.31	97.8
Tb	159	1	No Gas	2615306.81	98.1
Tb	159	3	He	1455618.57	96.4
Ho	165	1	No Gas	2331846.66	96.9
Ho	165	3	He	1361977.75	98.0
Lu	175	1	No Gas	2157019.62	96.2
Lu	175	3	He	1092324.74	100.3
Bi	209	1	No Gas	1382921.34	96.8
Bi	209	3	He	839605.38	96.7

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	017_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:39:11
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	0.190	ug/l	12793.18
Be	9	45	1	No Gas	-0.065	ug/l	100.98
B	11	45	1	No Gas	2.984	ug/l	7185.93
Na	23	45	3	He	-1.095	ug/l	56758.70
Mg	24	45	3	He	-0.186	ug/l	1480.48
Al	27	45	1	No Gas	0.394	ug/l	14954.38
Si	28	45	2	H2	-8.179	ug/l	18154.25
K	39	72	3	He	48.405	ug/l	181676.36
Ca	40	72	2	H2	0.416	ug/l	228656.96
Ti	47	72	1	No Gas	-0.172	ug/l	418.76
V	51	72	1	No Gas	2.072	ug/l	-23390.76
V	51	72	3	He	-0.433	ug/l	29374.82
Cr	52	72	1	No Gas	1.098	ug/l	111012.78
Cr	52	72	3	He	-0.029	ug/l	4843.05
Mn	55	72	1	No Gas	0.203	ug/l	13472.80
Mn	55	72	3	He	-0.015	ug/l	308.94
Fe	56	72	2	H2	0.129	ug/l	22020.28
Fe	56	72	3	He	0.937	ug/l	22028.65
Co	59	72	1	No Gas	-0.008	ug/l	592.17
Ni	60	72	1	No Gas	0.012	ug/l	851.67
Ni	60	72	3	He	-0.014	ug/l	277.78
Cu	63	72	1	No Gas	0.013	ug/l	1970.93
Cu	63	72	3	He	0.018	ug/l	649.22
Cu	65	72	1	No Gas	0.017	ug/l	725.65
Zn	66	72	1	No Gas	0.008	ug/l	786.95
Zn	66	72	3	He	0.018	ug/l	200.00
As	75	72	1	No Gas	-1.104	ug/l	14378.90
As	75	72	3	He	0.113	ug/l	1259.83
Se	78	72	2	H2	0.036	ug/l	62.33
Br	79	72	1	No Gas	0.241	ug/l	25385.37
Br	79	72	2	H2	0.054	ug/l	16203.64
Se	82	72	1	No Gas	0.076	ug/l	739.81
Kr	84	72	1	No Gas		ug/l	19844.39
Sr	88	72	1	No Gas	0.001	ug/l	252.84
Sr	88	72	3	He	0.000	ug/l	121.11
Mo	95	115	1	No Gas	0.024	ug/l	113.34
Mo	95	115	3	He	0.013	ug/l	30.00
Mo	98	115	1	No Gas	0.019	ug/l	148.34
Ag	107	115	1	No Gas	0.005	ug/l	694.96
Ag	109	115	1	No Gas	0.007	ug/l	634.94
Cd	111	115	1	No Gas	-0.014	ug/l	-16.61

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	10.56
Cd	114	115	1	No Gas	-0.001	ug/l	-43.97
Cd	114	115	3	He	0.005	ug/l	23.77
Sn	118	115	1	No Gas	0.001	ug/l	994.74
Sn	118	115	3	He	0.042	ug/l	420.01
Sb	121	115	1	No Gas	0.181	ug/l	1709.89
Sb	121	115	3	He	0.073	ug/l	273.70
Sb	123	115	1	No Gas	0.082	ug/l	622.08
Sb	123	115	3	He	0.077	ug/l	216.69
Ba	135	115	1	No Gas	0.013	ug/l	36.59
Ba	137	115	1	No Gas	-0.009	ug/l	26.61
La	139	115	3	He	-8.875	ug/l	6.66
Ce	140	115	3	He	0.007	ug/l	21.11
Hg	201	209	1	No Gas	0.049	ug/l	15.00
Hg	202	209	1	No Gas	0.023	ug/l	24.66
Hg	202	209	3	He	0.046	ug/l	11.33
Tl	203	209	3	He	0.120	ug/l	324.14
Tl	205	209	1	No Gas	0.113	ug/l	1181.17
Tl	205	209	3	He	0.115	ug/l	736.32
[Pb]	206	209	1	No Gas	0.012	ug/l	147.78
[Pb]	207	209	1	No Gas	0.005	ug/l	97.78
Pb	208	209	1	No Gas	0.010	ug/l	511.12
Th	232	209	3	He	0.022	ug/l	172.74
U	238	209	1	No Gas	0.003	ug/l	46.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2752689.98	102.3
Sc	45	2	H2	1550126.77	97.2
Sc	45	3	He	228676.51	101.2
Ge	72	1	No Gas	651548.72	99.9
Ge	72	2	H2	549539.04	98.8
Ge	72	3	He	124945.92	99.5
In	115	1	No Gas	3015302.20	98.0
In	115	3	He	939265.67	98.1
Tb	159	1	No Gas	2636025.10	98.9
Tb	159	3	He	1466452.01	97.1
Ho	165	1	No Gas	2351975.64	97.7
Ho	165	3	He	1347139.87	96.9
Lu	175	1	No Gas	2138425.46	95.4
Lu	175	3	He	1078233.73	99.0
Bi	209	1	No Gas	1369908.48	95.9
Bi	209	3	He	833634.94	96.0

ICPMS207-B Analytical Data

Sample Name	LRB
File Name	018MBLK.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:45:26
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	-0.613	ug/l	8453.08
Be	9	45	1	No Gas	-0.064	ug/l	102.98
B	11	45	1	No Gas	2.117	ug/l	5658.67
Na	23	45	3	He	6.699	ug/l	60478.59
Mg	24	45	3	He	0.692	ug/l	1766.60
Al	27	45	1	No Gas	0.115	ug/l	11212.01
Si	28	45	2	H2	-7.735	ug/l	18619.68
K	39	72	3	He	52.354	ug/l	178914.77
Ca	40	72	2	H2	5.003	ug/l	252933.60
Ti	47	72	1	No Gas	-0.105	ug/l	512.19
V	51	72	1	No Gas	0.206	ug/l	-55261.88
V	51	72	3	He	0.360	ug/l	31226.31
Cr	52	72	1	No Gas	1.451	ug/l	116500.02
Cr	52	72	3	He	0.044	ug/l	4974.21
Mn	55	72	1	No Gas	0.195	ug/l	13346.26
Mn	55	72	3	He	-0.004	ug/l	327.27
Fe	56	72	2	H2	0.181	ug/l	22441.32
Fe	56	72	3	He	0.831	ug/l	21148.13
Co	59	72	1	No Gas	-0.006	ug/l	625.44
Ni	60	72	1	No Gas	0.002	ug/l	815.08
Ni	60	72	3	He	-0.006	ug/l	281.12
Cu	63	72	1	No Gas	0.034	ug/l	2161.03
Cu	63	72	3	He	0.043	ug/l	709.88
Cu	65	72	1	No Gas	0.047	ug/l	849.04
Zn	66	72	1	No Gas	0.331	ug/l	1735.15
Zn	66	72	3	He	0.440	ug/l	514.46
As	75	72	1	No Gas	-0.809	ug/l	15545.68
As	75	72	3	He	0.253	ug/l	1349.37
Se	78	72	2	H2	0.030	ug/l	58.78
Br	79	72	1	No Gas	-0.854	ug/l	18005.57
Br	79	72	2	H2	-0.767	ug/l	12157.68
Se	82	72	1	No Gas	0.361	ug/l	800.88
Kr	84	72	1	No Gas		ug/l	21480.24
Sr	88	72	1	No Gas	0.014	ug/l	512.33
Sr	88	72	3	He	0.007	ug/l	141.11
Mo	95	115	1	No Gas	0.008	ug/l	51.11
Mo	95	115	3	He	0.008	ug/l	21.11
Mo	98	115	1	No Gas	0.006	ug/l	68.89
Ag	107	115	1	No Gas	-0.064	ug/l	37.35
Ag	109	115	1	No Gas	-0.061	ug/l	35.35
Cd	111	115	1	No Gas	0.008	ug/l	26.19

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	9.22
Cd	114	115	1	No Gas	0.020	ug/l	44.40
Cd	114	115	3	He	0.004	ug/l	20.43
Sn	118	115	1	No Gas	0.027	ug/l	1117.83
Sn	118	115	3	He	0.023	ug/l	383.34
Sb	121	115	1	No Gas	0.035	ug/l	410.38
Sb	121	115	3	He	0.040	ug/l	177.35
Sb	123	115	1	No Gas	0.040	ug/l	337.71
Sb	123	115	3	He	0.045	ug/l	143.68
Ba	135	115	1	No Gas	0.029	ug/l	59.88
Ba	137	115	1	No Gas	0.010	ug/l	73.19
La	139	115	3	He	-6.431	ug/l	7.78
Ce	140	115	3	He	0.006	ug/l	18.89
Hg	201	209	1	No Gas	0.022	ug/l	12.00
Hg	202	209	1	No Gas	0.007	ug/l	20.66
Hg	202	209	3	He	0.018	ug/l	7.00
Tl	203	209	3	He	0.041	ug/l	161.40
Tl	205	209	1	No Gas	0.035	ug/l	566.68
Tl	205	209	3	He	0.045	ug/l	391.50
[Pb]	206	209	1	No Gas	-0.002	ug/l	110.00
[Pb]	207	209	1	No Gas	0.009	ug/l	107.78
Pb	208	209	1	No Gas	0.003	ug/l	438.90
Th	232	209	3	He	0.013	ug/l	121.38
U	238	209	1	No Gas	0.000	ug/l	24.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2716656.65	101.0
Sc	45	2	H2	1532507.37	96.1
Sc	45	3	He	222244.28	98.3
Ge	72	1	No Gas	652632.28	100.0
Ge	72	2	H2	545529.54	98.1
Ge	72	3	He	121775.16	97.0
In	115	1	No Gas	2988944.06	97.2
In	115	3	He	932710.64	97.4
Tb	159	1	No Gas	2655236.57	99.6
Tb	159	3	He	1453116.20	96.2
Ho	165	1	No Gas	2317559.22	96.3
Ho	165	3	He	1308533.91	94.1
Lu	175	1	No Gas	2123101.36	94.7
Lu	175	3	He	1061729.31	97.5
Bi	209	1	No Gas	1385497.78	97.0
Bi	209	3	He	833262.00	96.0

ICPMS207-B Analytical Data

Sample Name	LFB
File Name	019_LFB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:51:41
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	2545.448	ug/l	12623731.95
Be	9	45	1	No Gas	50.024	ug/l	118078.26
B	11	45	1	No Gas	52.908	ug/l	85577.37
Na	23	45	3	He	50545.516	ug/l	33818716.44
Mg	24	45	3	He	50865.130	ug/l	18678692.47
Al	27	45	1	No Gas	49.461	ug/l	594800.07
Si	28	45	2	H2	195.250	ug/l	316771.27
K	39	72	3	He	50187.068	ug/l	23112418.27
Ca	40	72	2	H2	48115.847	ug/l	268887711.57
Ti	47	72	1	No Gas	51.153	ug/l	70632.26
V	51	72	1	No Gas	47.748	ug/l	743831.06
V	51	72	3	He	52.414	ug/l	200571.59
Cr	52	72	1	No Gas	52.544	ug/l	885510.42
Cr	52	72	3	He	50.732	ug/l	179420.87
Mn	55	72	1	No Gas	47.959	ug/l	904822.37
Mn	55	72	3	He	50.553	ug/l	118253.58
Fe	56	72	2	H2	4997.771	ug/l	55163281.76
Fe	56	72	3	He	5163.980	ug/l	15578272.52
Co	59	72	1	No Gas	47.938	ug/l	782951.20
Ni	60	72	1	No Gas	47.648	ug/l	178001.28
Ni	60	72	3	He	50.916	ug/l	63001.77
Cu	63	72	1	No Gas	48.604	ug/l	428416.14
Cu	63	72	3	He	52.404	ug/l	163319.28
Cu	65	72	1	No Gas	49.331	ug/l	201675.25
Zn	66	72	1	No Gas	48.783	ug/l	143354.70
Zn	66	72	3	He	50.946	ug/l	38440.65
As	75	72	1	No Gas	52.393	ug/l	225689.93
As	75	72	3	He	51.014	ug/l	45289.92
Se	78	72	2	H2	49.386	ug/l	23423.36
Br	79	72	1	No Gas	-0.558	ug/l	20634.01
Br	79	72	2	H2	-0.463	ug/l	13892.46
Se	82	72	1	No Gas	48.193	ug/l	10759.74
Kr	84	72	1	No Gas		ug/l	25382.28
Sr	88	72	1	No Gas	48.387	ug/l	959585.63
Sr	88	72	3	He	50.041	ug/l	159790.97
Mo	95	115	1	No Gas	48.920	ug/l	174461.03
Mo	95	115	3	He	48.750	ug/l	74559.21
Mo	98	115	1	No Gas	48.124	ug/l	270273.63
Ag	107	115	1	No Gas	19.779	ug/l	171969.66
Ag	109	115	1	No Gas	19.934	ug/l	161837.01
Cd	111	115	1	No Gas	49.791	ug/l	87686.50

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.167	ug/l	37286.01
Cd	114	115	1	No Gas	49.392	ug/l	191090.84
Cd	114	115	3	He	50.590	ug/l	88336.13
Sn	118	115	1	No Gas	49.378	ug/l	233193.09
Sn	118	115	3	He	50.418	ug/l	85688.69
Sb	121	115	1	No Gas	43.992	ug/l	355319.67
Sb	121	115	3	He	45.680	ug/l	128985.06
Sb	123	115	1	No Gas	44.414	ug/l	267655.59
Sb	123	115	3	He	46.109	ug/l	100981.08
Ba	135	115	1	No Gas	49.539	ug/l	68445.22
Ba	137	115	1	No Gas	49.093	ug/l	116156.89
La	139	115	3	He	128.619	ug/l	68.89
Ce	140	115	3	He	256.165	ug/l	466093.92
Hg	201	209	1	No Gas	5.361	ug/l	603.56
Hg	202	209	1	No Gas	5.118	ug/l	1270.14
Hg	202	209	3	He	5.464	ug/l	813.20
Tl	203	209	3	He	50.093	ug/l	98189.74
Tl	205	209	1	No Gas	49.147	ug/l	362659.64
Tl	205	209	3	He	49.459	ug/l	231530.35
[Pb]	206	209	1	No Gas	50.895	ug/l	126898.09
[Pb]	207	209	1	No Gas	50.825	ug/l	106319.51
Pb	208	209	1	No Gas	51.038	ug/l	500110.05
Th	232	209	3	He	49.867	ug/l	283313.38
U	238	209	1	No Gas	49.062	ug/l	410340.77

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2669503.54	99.2
Sc	45	2	H2	1530950.52	96.0
Sc	45	3	He	224694.81	99.4
Ge	72	1	No Gas	669981.88	102.7
Ge	72	2	H2	554069.71	99.6
Ge	72	3	He	124586.62	99.2
In	115	1	No Gas	2844604.76	92.5
In	115	3	He	921221.87	96.2
Tb	159	1	No Gas	2620056.21	98.3
Tb	159	3	He	1469406.02	97.3
Ho	165	1	No Gas	2331435.68	96.8
Ho	165	3	He	1359821.30	97.8
Lu	175	1	No Gas	2147852.34	95.8
Lu	175	3	He	1089634.47	100.1
Bi	209	1	No Gas	1313254.20	91.9
Bi	209	3	He	812794.95	93.6

ICPMS207-B Analytical Data

Sample Name	ICSA
File Name	020ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 13:57:57
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	2.801	ug/l	26156.21
Be	9	45	1	No Gas	0.111	ug/l	530.47
B	11	45	1	No Gas	1.999	ug/l	5459.18
Na	23	45	3	He	101675.104	ug/l	68176232.87
Mg	24	45	3	He	41932.055	ug/l	15442076.35
Al	27	45	1	No Gas	39411.258	ug/l	488285419.39
Si	28	45	2	H2	-7.559	ug/l	18912.21
K	39	72	3	He	39997.243	ug/l	18795935.83
Ca	40	72	2	H2	119008.729	ug/l	672335004.65
Ti	47	72	1	No Gas	794.772	ug/l	1126682.42
V	51	72	1	No Gas	4.155	ug/l	11933.91
V	51	72	3	He	-6.754	ug/l	8115.61
Cr	52	72	1	No Gas	-1.152	ug/l	79776.71
Cr	52	72	3	He	0.794	ug/l	7664.25
Mn	55	72	1	No Gas	0.505	ug/l	19767.44
Mn	55	72	3	He	0.201	ug/l	816.86
Fe	56	72	2	H2	102416.946	ug/l	1142684003.75
Fe	56	72	3	He	104709.906	ug/l	321489568.24
Co	59	72	1	No Gas	0.294	ug/l	5709.80
Ni	60	72	1	No Gas	0.855	ug/l	4125.75
Ni	60	72	3	He	0.181	ug/l	518.90
Cu	63	72	1	No Gas	1.112	ug/l	12030.43
Cu	63	72	3	He	0.068	ug/l	797.20
Cu	65	72	1	No Gas	0.828	ug/l	4174.95
Zn	66	72	1	No Gas	0.953	ug/l	3674.13
Zn	66	72	3	He	0.583	ug/l	628.91
As	75	72	1	No Gas	0.112	ug/l	19805.69
As	75	72	3	He	-0.416	ug/l	775.74
Se	78	72	2	H2	0.098	ug/l	91.33
Br	79	72	1	No Gas	17.970	ug/l	150078.43
Br	79	72	2	H2	17.104	ug/l	97355.46
Se	82	72	1	No Gas	0.049	ug/l	758.61
Kr	84	72	1	No Gas		ug/l	19151.40
Sr	88	72	1	No Gas	1.259	ug/l	26078.62
Sr	88	72	3	He	1.230	ug/l	4117.28
Mo	95	115	1	No Gas	768.565	ug/l	2982477.04
Mo	95	115	3	He	817.428	ug/l	1272688.18
Mo	98	115	1	No Gas	782.026	ug/l	4776832.05
Ag	107	115	1	No Gas	0.005	ug/l	694.30
Ag	109	115	1	No Gas	0.011	ug/l	670.28
Cd	111	115	1	No Gas	0.025	ug/l	58.06

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.282	ug/l	221.12
Cd	114	115	1	No Gas	0.056	ug/l	196.21
Cd	114	115	3	He	0.202	ug/l	373.27
Sn	118	115	1	No Gas	0.084	ug/l	1417.27
Sn	118	115	3	He	0.139	ug/l	574.46
Sb	121	115	1	No Gas	0.618	ug/l	5529.98
Sb	121	115	3	He	0.559	ug/l	1664.27
Sb	123	115	1	No Gas	0.633	ug/l	4229.40
Sb	123	115	3	He	0.566	ug/l	1300.86
Ba	135	115	1	No Gas	0.075	ug/l	129.74
Ba	137	115	1	No Gas	0.060	ug/l	202.93
La	139	115	3	He	187.214	ug/l	96.67
Ce	140	115	3	He	0.013	ug/l	32.22
Hg	201	209	1	No Gas	0.048	ug/l	15.33
Hg	202	209	1	No Gas	0.024	ug/l	25.66
Hg	202	209	3	He	0.033	ug/l	9.33
Tl	203	209	3	He	0.059	ug/l	196.08
Tl	205	209	1	No Gas	0.049	ug/l	692.25
Tl	205	209	3	He	0.050	ug/l	412.84
[Pb]	206	209	1	No Gas	0.017	ug/l	166.67
[Pb]	207	209	1	No Gas	0.029	ug/l	156.67
Pb	208	209	1	No Gas	0.027	ug/l	706.68
Th	232	209	3	He	0.040	ug/l	278.78
U	238	209	1	No Gas	0.004	ug/l	61.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2714030.00	100.9
Sc	45	2	H2	1534563.23	96.2
Sc	45	3	He	218806.64	96.8
Ge	72	1	No Gas	673767.44	103.3
Ge	72	2	H2	544052.21	97.8
Ge	72	3	He	123256.12	98.2
In	115	1	No Gas	3003904.42	97.7
In	115	3	He	910570.25	95.1
Tb	159	1	No Gas	2744093.29	103.0
Tb	159	3	He	1490634.87	98.7
Ho	165	1	No Gas	2499937.14	103.8
Ho	165	3	He	1353342.13	97.3
Lu	175	1	No Gas	2324953.26	103.7
Lu	175	3	He	1098520.11	100.9
Bi	209	1	No Gas	1411949.02	98.8
Bi	209	3	He	827401.56	95.3

ICPMS207-B Analytical Data

Sample Name	ICSAB
File Name	021ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:04:14
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	0.822	ug/l	15311.82
Be	9	45	1	No Gas	-0.078	ug/l	64.32
B	11	45	1	No Gas	1.403	ug/l	4314.35
Na	23	45	3	He	104865.914	ug/l	66141815.13
Mg	24	45	3	He	42373.759	ug/l	14680128.66
Al	27	45	1	No Gas	38818.345	ug/l	463520379.76
Si	28	45	2	H2	-8.525	ug/l	17023.91
K	39	72	3	He	38206.653	ug/l	17717937.10
Ca	40	72	2	H2	116427.334	ug/l	651241391.78
Ti	47	72	1	No Gas	794.765	ug/l	1076416.99
V	51	72	1	No Gas	23.736	ug/l	337988.56
V	51	72	3	He	12.592	ug/l	71013.68
Cr	52	72	1	No Gas	17.231	ug/l	349267.45
Cr	52	72	3	He	20.602	ug/l	76048.55
Mn	55	72	1	No Gas	20.654	ug/l	390999.96
Mn	55	72	3	He	19.929	ug/l	47057.02
Fe	56	72	2	H2	100769.106	ug/l	1113415189.30
Fe	56	72	3	He	103589.459	ug/l	313784843.79
Co	59	72	1	No Gas	20.347	ug/l	329234.54
Ni	60	72	1	No Gas	20.924	ug/l	77781.26
Ni	60	72	3	He	20.785	ug/l	26016.49
Cu	63	72	1	No Gas	21.031	ug/l	184482.99
Cu	63	72	3	He	21.413	ug/l	67420.32
Cu	65	72	1	No Gas	21.175	ug/l	86039.01
Zn	66	72	1	No Gas	10.746	ug/l	31836.50
Zn	66	72	3	He	10.365	ug/l	8007.80
As	75	72	1	No Gas	8.542	ug/l	51809.67
As	75	72	3	He	9.416	ug/l	9316.12
Se	78	72	2	H2	10.066	ug/l	4815.91
Br	79	72	1	No Gas	20.301	ug/l	158998.97
Br	79	72	2	H2	18.474	ug/l	102872.13
Se	82	72	1	No Gas	10.271	ug/l	2827.58
Kr	84	72	1	No Gas		ug/l	19567.75
Sr	88	72	1	No Gas	1.248	ug/l	24709.13
Sr	88	72	3	He	1.186	ug/l	3921.67
Mo	95	115	1	No Gas	751.394	ug/l	2895824.16
Mo	95	115	3	He	819.150	ug/l	1246662.22
Mo	98	115	1	No Gas	777.137	ug/l	4715246.88
Ag	107	115	1	No Gas	4.788	ug/l	45468.12
Ag	109	115	1	No Gas	4.895	ug/l	43363.43
Cd	111	115	1	No Gas	9.811	ug/l	18675.24

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.666	ug/l	7897.08
Cd	114	115	1	No Gas	9.714	ug/l	40576.06
Cd	114	115	3	He	10.701	ug/l	18608.73
Sn	118	115	1	No Gas	0.008	ug/l	1021.35
Sn	118	115	3	He	0.028	ug/l	374.45
Sb	121	115	1	No Gas	0.176	ug/l	1641.93
Sb	121	115	3	He	0.164	ug/l	517.39
Sb	123	115	1	No Gas	0.178	ug/l	1236.51
Sb	123	115	3	He	0.183	ug/l	435.72
Ba	135	115	1	No Gas	0.058	ug/l	103.13
Ba	137	115	1	No Gas	0.079	ug/l	249.51
La	139	115	3	He	211.734	ug/l	105.56
Ce	140	115	3	He	0.018	ug/l	40.00
Hg	201	209	1	No Gas	0.010	ug/l	10.33
Hg	202	209	1	No Gas	0.018	ug/l	23.00
Hg	202	209	3	He	0.017	ug/l	7.00
Tl	203	209	3	He	0.027	ug/l	134.05
Tl	205	209	1	No Gas	0.016	ug/l	407.79
Tl	205	209	3	He	0.026	ug/l	301.46
[Pb]	206	209	1	No Gas	0.006	ug/l	130.00
[Pb]	207	209	1	No Gas	0.021	ug/l	131.11
Pb	208	209	1	No Gas	0.016	ug/l	563.34
Th	232	209	3	He	0.023	ug/l	183.41
U	238	209	1	No Gas	0.001	ug/l	31.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2616994.93	97.3
Sc	45	2	H2	1497156.34	93.9
Sc	45	3	He	205849.61	91.1
Ge	72	1	No Gas	643749.54	98.7
Ge	72	2	H2	538750.48	96.9
Ge	72	3	He	121597.34	96.9
In	115	1	No Gas	2983695.82	97.0
In	115	3	He	890242.06	93.0
Tb	159	1	No Gas	2692997.04	101.0
Tb	159	3	He	1503815.06	99.6
Ho	165	1	No Gas	2411851.58	100.2
Ho	165	3	He	1347566.18	96.9
Lu	175	1	No Gas	2258599.98	100.8
Lu	175	3	He	1068654.36	98.1
Bi	209	1	No Gas	1349812.92	94.5
Bi	209	3	He	848209.78	97.7

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	022BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:10:31
Sample Type	BlkVrfy
Total Dilution	1.0000
Comment	ICPMS-6020-W-D
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.272	ug/l	12787.83
Be	9	45	1	No Gas	-0.078	ug/l	67.32
B	11	45	1	No Gas	0.517	ug/l	2956.15
Na	23	45	3	He	25.391	ug/l	70424.83
Mg	24	45	3	He	1.525	ug/l	1999.51
Al	27	45	1	No Gas	1.599	ug/l	29070.64
Si	28	45	2	H2	-11.056	ug/l	13333.94
K	39	72	3	He	35.352	ug/l	168012.68
Ca	40	72	2	H2	2.593	ug/l	234494.22
Ti	47	72	1	No Gas	-0.131	ug/l	457.14
V	51	72	1	No Gas	2.237	ug/l	-20041.91
V	51	72	3	He	-6.635	ug/l	8261.24
Cr	52	72	1	No Gas	-3.348	ug/l	42513.72
Cr	52	72	3	He	-0.146	ug/l	4237.30
Mn	55	72	1	No Gas	0.357	ug/l	15753.85
Mn	55	72	3	He	-0.024	ug/l	275.62
Fe	56	72	2	H2	1.571	ug/l	37222.63
Fe	56	72	3	He	1.164	ug/l	21759.64
Co	59	72	1	No Gas	-0.013	ug/l	489.04
Ni	60	72	1	No Gas	0.095	ug/l	1117.83
Ni	60	72	3	He	0.021	ug/l	308.89
Cu	63	72	1	No Gas	0.069	ug/l	2378.48
Cu	63	72	3	He	0.015	ug/l	613.22
Cu	65	72	1	No Gas	0.064	ug/l	885.05
Zn	66	72	1	No Gas	-0.003	ug/l	724.82
Zn	66	72	3	He	0.016	ug/l	190.00
As	75	72	1	No Gas	-1.522	ug/l	12210.89
As	75	72	3	He	-0.553	ug/l	635.40
Se	78	72	2	H2	-0.010	ug/l	38.89
Br	79	72	1	No Gas	0.435	ug/l	25712.17
Br	79	72	2	H2	-0.088	ug/l	15097.97
Se	82	72	1	No Gas	0.978	ug/l	893.16
Kr	84	72	1	No Gas		ug/l	22079.80
Sr	88	72	1	No Gas	0.001	ug/l	236.20
Sr	88	72	3	He	-0.003	ug/l	106.67
Mo	95	115	1	No Gas	0.157	ug/l	640.02
Mo	95	115	3	He	0.118	ug/l	193.34
Mo	98	115	1	No Gas	0.158	ug/l	1015.68
Ag	107	115	1	No Gas	-0.003	ug/l	624.93
Ag	109	115	1	No Gas	0.004	ug/l	619.60
Cd	111	115	1	No Gas	-0.008	ug/l	-4.32

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.002	ug/l	9.56
Cd	114	115	1	No Gas	-0.003	ug/l	-52.02
Cd	114	115	3	He	0.000	ug/l	14.20
Sn	118	115	1	No Gas	1.669	ug/l	9710.78
Sn	118	115	3	He	1.829	ug/l	3507.12
Sb	121	115	1	No Gas	0.051	ug/l	565.74
Sb	121	115	3	He	0.049	ug/l	198.69
Sb	123	115	1	No Gas	0.054	ug/l	439.05
Sb	123	115	3	He	0.047	ug/l	144.35
Ba	135	115	1	No Gas	-0.004	ug/l	9.98
Ba	137	115	1	No Gas	-0.005	ug/l	36.59
La	139	115	3	He	-8.559	ug/l	6.67
Ce	140	115	3	He	0.009	ug/l	23.34
Hg	201	209	1	No Gas	0.007	ug/l	10.00
Hg	202	209	1	No Gas	-0.011	ug/l	16.00
Hg	202	209	3	He	0.016	ug/l	6.67
Tl	203	209	3	He	0.015	ug/l	106.05
Tl	205	209	1	No Gas	0.007	ug/l	347.79
Tl	205	209	3	He	0.011	ug/l	222.76
[Pb]	206	209	1	No Gas	-0.008	ug/l	93.33
[Pb]	207	209	1	No Gas	-0.002	ug/l	83.33
Pb	208	209	1	No Gas	-0.008	ug/l	320.00
Th	232	209	3	He	0.012	ug/l	110.06
U	238	209	1	No Gas	0.000	ug/l	24.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2664177.94	99.0
Sc	45	2	H2	1503037.03	94.3
Sc	45	3	He	213815.46	94.6
Ge	72	1	No Gas	627177.13	96.1
Ge	72	2	H2	534457.17	96.1
Ge	72	3	He	119612.19	95.3
In	115	1	No Gas	3061593.29	99.5
In	115	3	He	915816.37	95.6
Tb	159	1	No Gas	2671959.55	100.2
Tb	159	3	He	1462774.29	96.9
Ho	165	1	No Gas	2382044.72	98.9
Ho	165	3	He	1315536.49	94.6
Lu	175	1	No Gas	2168621.93	96.7
Lu	175	3	He	1066126.76	97.9
Bi	209	1	No Gas	1378380.55	96.5
Bi	209	3	He	830114.15	95.6

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	023BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:16:44
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	0.391	ug/l	13132.30
Be	9	45	1	No Gas	-0.081	ug/l	57.32
B	11	45	1	No Gas	0.262	ug/l	2491.88
Na	23	45	3	He	15.677	ug/l	63504.34
Mg	24	45	3	He	0.866	ug/l	1746.64
Al	27	45	1	No Gas	1.023	ug/l	21611.23
Si	28	45	2	H2	-11.347	ug/l	12706.48
K	39	72	3	He	28.055	ug/l	163038.42
Ca	40	72	2	H2	2.458	ug/l	229440.49
Ti	47	72	1	No Gas	-0.187	ug/l	372.05
V	51	72	1	No Gas	4.916	ug/l	22675.53
V	51	72	3	He	-6.197	ug/l	9562.05
Cr	52	72	1	No Gas	-2.915	ug/l	47268.35
Cr	52	72	3	He	-0.116	ug/l	4296.20
Mn	55	72	1	No Gas	0.341	ug/l	14987.93
Mn	55	72	3	He	-0.027	ug/l	265.95
Fe	56	72	2	H2	0.568	ug/l	25745.02
Fe	56	72	3	He	0.383	ug/l	19241.89
Co	59	72	1	No Gas	-0.009	ug/l	535.62
Ni	60	72	1	No Gas	0.063	ug/l	971.45
Ni	60	72	3	He	0.021	ug/l	305.56
Cu	63	72	1	No Gas	0.014	ug/l	1849.53
Cu	63	72	3	He	0.003	ug/l	568.90
Cu	65	72	1	No Gas	0.033	ug/l	738.32
Zn	66	72	1	No Gas	-0.033	ug/l	621.68
Zn	66	72	3	He	0.031	ug/l	198.89
As	75	72	1	No Gas	-2.179	ug/l	9407.02
As	75	72	3	He	-0.521	ug/l	656.07
Se	78	72	2	H2	-0.011	ug/l	37.56
Br	79	72	1	No Gas	0.382	ug/l	24579.10
Br	79	72	2	H2	-0.012	ug/l	15167.91
Se	82	72	1	No Gas	-0.347	ug/l	609.80
Kr	84	72	1	No Gas		ug/l	18745.09
Sr	88	72	1	No Gas	0.003	ug/l	262.82
Sr	88	72	3	He	-0.003	ug/l	103.33
Mo	95	115	1	No Gas	0.042	ug/l	176.67
Mo	95	115	3	He	0.034	ug/l	60.00
Mo	98	115	1	No Gas	0.037	ug/l	250.70
Ag	107	115	1	No Gas	-0.003	ug/l	598.92
Ag	109	115	1	No Gas	0.003	ug/l	582.25
Cd	111	115	1	No Gas	-0.008	ug/l	-4.73

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	-0.001	ug/l	7.33
Cd	114	115	1	No Gas	-0.001	ug/l	-42.83
Cd	114	115	3	He	-0.004	ug/l	6.89
Sn	118	115	1	No Gas	1.696	ug/l	9381.19
Sn	118	115	3	He	1.782	ug/l	3370.43
Sb	121	115	1	No Gas	0.025	ug/l	317.37
Sb	121	115	3	He	0.028	ug/l	136.35
Sb	123	115	1	No Gas	0.030	ug/l	265.36
Sb	123	115	3	He	0.032	ug/l	109.34
Ba	135	115	1	No Gas	0.005	ug/l	23.29
Ba	137	115	1	No Gas	-0.006	ug/l	33.27
La	139	115	3	He	-3.532	ug/l	8.89
Ce	140	115	3	He	0.008	ug/l	22.22
Hg	201	209	1	No Gas	0.007	ug/l	10.00
Hg	202	209	1	No Gas	-0.001	ug/l	18.33
Hg	202	209	3	He	0.020	ug/l	7.33
Tl	203	209	3	He	0.012	ug/l	100.71
Tl	205	209	1	No Gas	0.004	ug/l	320.01
Tl	205	209	3	He	0.015	ug/l	240.10
[Pb]	206	209	1	No Gas	-0.015	ug/l	75.55
[Pb]	207	209	1	No Gas	0.001	ug/l	87.78
Pb	208	209	1	No Gas	-0.007	ug/l	322.22
Th	232	209	3	He	0.005	ug/l	68.03
U	238	209	1	No Gas	0.000	ug/l	23.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2612647.38	97.1
Sc	45	2	H2	1480214.11	92.8
Sc	45	3	He	211945.08	93.8
Ge	72	1	No Gas	607996.64	93.2
Ge	72	2	H2	524639.09	94.3
Ge	72	3	He	118399.02	94.3
In	115	1	No Gas	2917370.53	94.8
In	115	3	He	901271.47	94.1
Tb	159	1	No Gas	2603764.04	97.7
Tb	159	3	He	1415067.77	93.7
Ho	165	1	No Gas	2313115.38	96.1
Ho	165	3	He	1317909.78	94.8
Lu	175	1	No Gas	2145175.46	95.7
Lu	175	3	He	1041314.27	95.6
Bi	209	1	No Gas	1360783.79	95.2
Bi	209	3	He	833984.24	96.1

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	024_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:22:58
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	629.991	ug/l	3057319.46
Be	9	45	1	No Gas	50.583	ug/l	116507.84
B	11	45	1	No Gas	53.353	ug/l	84150.52
Na	23	45	3	He	12876.187	ug/l	8199826.75
Mg	24	45	3	He	12819.367	ug/l	4460424.06
Al	27	45	1	No Gas	50.832	ug/l	596005.25
Si	28	45	2	H2	193.445	ug/l	303768.04
K	39	72	3	He	12319.614	ug/l	5644682.69
Ca	40	72	2	H2	12126.592	ug/l	65881677.69
Ti	47	72	1	No Gas	50.704	ug/l	65899.13
V	51	72	1	No Gas	52.653	ug/l	780217.86
V	51	72	3	He	46.953	ug/l	177452.99
Cr	52	72	1	No Gas	49.269	ug/l	784722.25
Cr	52	72	3	He	52.353	ug/l	180272.49
Mn	55	72	1	No Gas	53.976	ug/l	957304.69
Mn	55	72	3	He	52.295	ug/l	119263.65
Fe	56	72	2	H2	1288.602	ug/l	13810951.09
Fe	56	72	3	He	1320.705	ug/l	3898951.08
Co	59	72	1	No Gas	52.615	ug/l	808654.16
Ni	60	72	1	No Gas	51.951	ug/l	182566.94
Ni	60	72	3	He	54.520	ug/l	65759.44
Cu	63	72	1	No Gas	53.653	ug/l	444960.25
Cu	63	72	3	He	56.447	ug/l	171495.78
Cu	65	72	1	No Gas	53.387	ug/l	205399.10
Zn	66	72	1	No Gas	54.202	ug/l	149844.40
Zn	66	72	3	He	53.801	ug/l	39579.15
As	75	72	1	No Gas	54.098	ug/l	218213.76
As	75	72	3	He	51.384	ug/l	44448.64
Se	78	72	2	H2	52.327	ug/l	24068.63
Br	79	72	1	No Gas	0.305	ug/l	24255.70
Br	79	72	2	H2	0.244	ug/l	16260.31
Se	82	72	1	No Gas	52.121	ug/l	10875.25
Kr	84	72	1	No Gas		ug/l	25641.99
Sr	88	72	1	No Gas	53.380	ug/l	996397.45
Sr	88	72	3	He	50.863	ug/l	158409.49
Mo	95	115	1	No Gas	49.566	ug/l	179191.56
Mo	95	115	3	He	52.810	ug/l	77953.97
Mo	98	115	1	No Gas	49.707	ug/l	282869.58
Ag	107	115	1	No Gas	19.748	ug/l	173983.23
Ag	109	115	1	No Gas	19.838	ug/l	163163.52
Cd	111	115	1	No Gas	50.801	ug/l	90646.70

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.062	ug/l	38064.94
Cd	114	115	1	No Gas	50.470	ug/l	197869.87
Cd	114	115	3	He	53.944	ug/l	90915.46
Sn	118	115	1	No Gas	51.047	ug/l	244124.66
Sn	118	115	3	He	53.180	ug/l	87205.46
Sb	121	115	1	No Gas	49.658	ug/l	406317.52
Sb	121	115	3	He	52.678	ug/l	143565.58
Sb	123	115	1	No Gas	49.899	ug/l	304638.50
Sb	123	115	3	He	52.387	ug/l	110725.11
Ba	135	115	1	No Gas	50.112	ug/l	70137.47
Ba	137	115	1	No Gas	49.959	ug/l	119731.52
La	139	115	3	He	17.947	ug/l	17.78
Ce	140	115	3	He	257.427	ug/l	452085.34
Hg	201	209	1	No Gas	4.991	ug/l	550.24
Hg	202	209	1	No Gas	5.052	ug/l	1229.15
Hg	202	209	3	He	5.319	ug/l	796.20
Tl	203	209	3	He	50.972	ug/l	100517.83
Tl	205	209	1	No Gas	51.836	ug/l	374957.71
Tl	205	209	3	He	50.540	ug/l	238031.96
[Pb]	206	209	1	No Gas	50.646	ug/l	123742.22
[Pb]	207	209	1	No Gas	52.356	ug/l	107346.41
Pb	208	209	1	No Gas	51.639	ug/l	495784.55
Th	232	209	3	He	50.032	ug/l	285961.34
U	238	209	1	No Gas	49.641	ug/l	406899.34

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2529831.91	94.0
Sc	45	2	H2	1441420.22	90.4
Sc	45	3	He	206661.39	91.4
Ge	72	1	No Gas	612398.32	93.9
Ge	72	2	H2	521829.31	93.8
Ge	72	3	He	117950.73	94.0
In	115	1	No Gas	2798464.99	91.0
In	115	3	He	863209.75	90.1
Tb	159	1	No Gas	2404048.16	90.2
Tb	159	3	He	1412458.10	93.5
Ho	165	1	No Gas	2199989.03	91.4
Ho	165	3	He	1269727.32	91.3
Lu	175	1	No Gas	2043773.36	91.2
Lu	175	3	He	1010226.47	92.8
Bi	209	1	No Gas	1249084.14	87.4
Bi	209	3	He	794076.56	91.5

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	025_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:29:12
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	0.293	ug/l	12021.57
Be	9	45	1	No Gas	-0.075	ug/l	67.99
B	11	45	1	No Gas	0.625	ug/l	2917.22
Na	23	45	3	He	14.887	ug/l	59365.26
Mg	24	45	3	He	-0.608	ug/l	1151.10
Al	27	45	1	No Gas	-0.052	ug/l	8343.47
Si	28	45	2	H2	-11.309	ug/l	12204.55
K	39	72	3	He	32.965	ug/l	156756.60
Ca	40	72	2	H2	2.085	ug/l	220945.07
Ti	47	72	1	No Gas	-0.196	ug/l	350.36
V	51	72	1	No Gas	3.622	ug/l	2289.50
V	51	72	3	He	-5.042	ug/l	12546.49
Cr	52	72	1	No Gas	-2.250	ug/l	55019.68
Cr	52	72	3	He	0.024	ug/l	4520.72
Mn	55	72	1	No Gas	0.414	ug/l	15800.50
Mn	55	72	3	He	-0.008	ug/l	291.94
Fe	56	72	2	H2	0.367	ug/l	22912.49
Fe	56	72	3	He	0.943	ug/l	19818.26
Co	59	72	1	No Gas	-0.004	ug/l	592.18
Ni	60	72	1	No Gas	0.008	ug/l	758.52
Ni	60	72	3	He	0.023	ug/l	292.22
Cu	63	72	1	No Gas	-0.009	ug/l	1616.74
Cu	63	72	3	He	-0.006	ug/l	515.24
Cu	65	72	1	No Gas	0.003	ug/l	604.26
Zn	66	72	1	No Gas	-0.039	ug/l	588.25
Zn	66	72	3	He	-0.020	ug/l	153.34
As	75	72	1	No Gas	-2.620	ug/l	7571.16
As	75	72	3	He	-0.426	ug/l	699.13
Se	78	72	2	H2	-0.001	ug/l	41.11
Br	79	72	1	No Gas	0.389	ug/l	23922.59
Br	79	72	2	H2	0.005	ug/l	14808.23
Se	82	72	1	No Gas	0.293	ug/l	712.08
Kr	84	72	1	No Gas		ug/l	19404.73
Sr	88	72	1	No Gas	-0.001	ug/l	189.63
Sr	88	72	3	He	0.000	ug/l	108.89
Mo	95	115	1	No Gas	0.036	ug/l	146.67
Mo	95	115	3	He	0.018	ug/l	34.44
Mo	98	115	1	No Gas	0.025	ug/l	172.64
Ag	107	115	1	No Gas	0.004	ug/l	626.27
Ag	109	115	1	No Gas	0.007	ug/l	583.58
Cd	111	115	1	No Gas	0.011	ug/l	28.08

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	8.33
Cd	114	115	1	No Gas	0.002	ug/l	-28.71
Cd	114	115	3	He	0.002	ug/l	15.71
Sn	118	115	1	No Gas	-0.019	ug/l	818.41
Sn	118	115	3	He	0.007	ug/l	323.34
Sb	121	115	1	No Gas	0.059	ug/l	569.40
Sb	121	115	3	He	0.049	ug/l	183.69
Sb	123	115	1	No Gas	0.057	ug/l	414.72
Sb	123	115	3	He	0.047	ug/l	134.68
Ba	135	115	1	No Gas	0.001	ug/l	16.63
Ba	137	115	1	No Gas	-0.005	ug/l	33.27
La	139	115	3	He	-4.835	ug/l	7.78
Ce	140	115	3	He	0.006	ug/l	16.67
Hg	201	209	1	No Gas	0.030	ug/l	11.67
Hg	202	209	1	No Gas	0.015	ug/l	20.67
Hg	202	209	3	He	0.013	ug/l	6.00
Tl	203	209	3	He	0.104	ug/l	276.78
Tl	205	209	1	No Gas	0.099	ug/l	975.60
Tl	205	209	3	He	0.112	ug/l	685.63
[Pb]	206	209	1	No Gas	-0.006	ug/l	92.22
[Pb]	207	209	1	No Gas	-0.004	ug/l	72.22
Pb	208	209	1	No Gas	-0.001	ug/l	355.56
Th	232	209	3	He	0.016	ug/l	130.05
U	238	209	1	No Gas	0.002	ug/l	35.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2481970.55	92.3
Sc	45	2	H2	1415729.74	88.8
Sc	45	3	He	199754.73	88.4
Ge	72	1	No Gas	590818.04	90.6
Ge	72	2	H2	509709.00	91.7
Ge	72	3	He	112316.24	89.5
In	115	1	No Gas	2760116.30	89.7
In	115	3	He	849799.50	88.7
Tb	159	1	No Gas	2424092.76	90.9
Tb	159	3	He	1380193.00	91.4
Ho	165	1	No Gas	2190573.86	91.0
Ho	165	3	He	1250318.67	89.9
Lu	175	1	No Gas	2014882.98	89.9
Lu	175	3	He	975841.70	89.6
Bi	209	1	No Gas	1254602.89	87.8
Bi	209	3	He	793978.39	91.5

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	026BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:35:26
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	-0.400	ug/l	8683.30
Be	9	45	1	No Gas	-0.081	ug/l	54.99
B	11	45	1	No Gas	0.007	ug/l	1972.26
Na	23	45	3	He	12.204	ug/l	56818.87
Mg	24	45	3	He	1.381	ug/l	1789.90
Al	27	45	1	No Gas	0.974	ug/l	19860.96
Si	28	45	2	H2	-12.000	ug/l	11175.99
K	39	72	3	He	18.428	ug/l	151075.11
Ca	40	72	2	H2	2.818	ug/l	223238.42
Ti	47	72	1	No Gas	-0.237	ug/l	295.30
V	51	72	1	No Gas	4.955	ug/l	22038.11
V	51	72	3	He	-5.523	ug/l	11134.25
Cr	52	72	1	No Gas	-2.308	ug/l	53644.46
Cr	52	72	3	He	0.025	ug/l	4539.61
Mn	55	72	1	No Gas	0.419	ug/l	15713.97
Mn	55	72	3	He	-0.019	ug/l	270.62
Fe	56	72	2	H2	0.304	ug/l	22097.09
Fe	56	72	3	He	0.562	ug/l	18814.26
Co	59	72	1	No Gas	-0.011	ug/l	492.37
Ni	60	72	1	No Gas	-0.017	ug/l	665.37
Ni	60	72	3	He	0.005	ug/l	272.23
Cu	63	72	1	No Gas	-0.017	ug/l	1536.04
Cu	63	72	3	He	-0.010	ug/l	503.91
Cu	65	72	1	No Gas	-0.009	ug/l	553.57
Zn	66	72	1	No Gas	-0.049	ug/l	555.06
Zn	66	72	3	He	-0.048	ug/l	134.45
As	75	72	1	No Gas	-0.805	ug/l	13975.03
As	75	72	3	He	-0.476	ug/l	661.20
Se	78	72	2	H2	-0.020	ug/l	32.22
Br	79	72	1	No Gas	0.654	ug/l	25305.55
Br	79	72	2	H2	0.294	ug/l	15987.16
Se	82	72	1	No Gas	0.192	ug/l	689.82
Kr	84	72	1	No Gas		ug/l	19015.13
Sr	88	72	1	No Gas	0.002	ug/l	229.55
Sr	88	72	3	He	-0.001	ug/l	104.44
Mo	95	115	1	No Gas	0.010	ug/l	53.33
Mo	95	115	3	He	0.008	ug/l	18.89
Mo	98	115	1	No Gas	0.012	ug/l	98.34
Ag	107	115	1	No Gas	-0.007	ug/l	540.23
Ag	109	115	1	No Gas	0.003	ug/l	556.90
Cd	111	115	1	No Gas	0.016	ug/l	38.97

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	-0.002	ug/l	6.33
Cd	114	115	1	No Gas	0.001	ug/l	-33.20
Cd	114	115	3	He	-0.002	ug/l	8.68
Sn	118	115	1	No Gas	1.727	ug/l	9131.58
Sn	118	115	3	He	1.796	ug/l	3168.16
Sb	121	115	1	No Gas	0.018	ug/l	248.03
Sb	121	115	3	He	0.019	ug/l	102.68
Sb	123	115	1	No Gas	0.020	ug/l	195.69
Sb	123	115	3	He	0.016	ug/l	69.01
Ba	135	115	1	No Gas	0.008	ug/l	26.61
Ba	137	115	1	No Gas	-0.008	ug/l	26.61
La	139	115	3	He	-9.874	ug/l	5.56
Ce	140	115	3	He	0.006	ug/l	16.67
Hg	201	209	1	No Gas	0.039	ug/l	12.67
Hg	202	209	1	No Gas	-0.011	ug/l	14.33
Hg	202	209	3	He	0.042	ug/l	10.00
Tl	203	209	3	He	0.038	ug/l	144.73
Tl	205	209	1	No Gas	0.020	ug/l	407.79
Tl	205	209	3	He	0.032	ug/l	306.13
[Pb]	206	209	1	No Gas	-0.017	ug/l	65.56
[Pb]	207	209	1	No Gas	-0.004	ug/l	71.11
Pb	208	209	1	No Gas	-0.009	ug/l	285.56
Th	232	209	3	He	0.007	ug/l	79.36
U	238	209	1	No Gas	0.000	ug/l	22.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2468321.24	91.7
Sc	45	2	H2	1407583.48	88.3
Sc	45	3	He	196654.44	87.0
Ge	72	1	No Gas	584453.27	89.6
Ge	72	2	H2	506135.12	91.0
Ge	72	3	He	112666.78	89.7
In	115	1	No Gas	2793834.21	90.8
In	115	3	He	841280.58	87.8
Tb	159	1	No Gas	2417265.23	90.7
Tb	159	3	He	1341061.41	88.8
Ho	165	1	No Gas	2174914.40	90.3
Ho	165	3	He	1221427.30	87.9
Lu	175	1	No Gas	2003899.25	89.4
Lu	175	3	He	975486.22	89.6
Bi	209	1	No Gas	1262427.71	88.3
Bi	209	3	He	782077.64	90.1

ICPMS207-B Analytical Data

Sample Name	B22010212-001A
File Name	027SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:41:40
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	0.093	ug/l	12965.39
Be	9	45	1	No Gas	-0.086	ug/l	50.99
B	11	45	1	No Gas	42.777	ug/l	77983.88
Na	23	45	3	He	39425.088	ug/l	28131725.97
Mg	24	45	3	He	18152.647	ug/l	7104334.28
Al	27	45	1	No Gas	1.896	ug/l	35617.82
Si	28	45	2	H2	26537.728	ug/l	42796726.37
K	39	72	3	He	4978.164	ug/l	2574736.45
Ca	40	72	2	H2	15638.289	ug/l	93181460.68
Ti	47	72	1	No Gas	1.062	ug/l	2154.00
V	51	72	1	No Gas	12.047	ug/l	147736.56
V	51	72	3	He	0.164	ug/l	32184.01
Cr	52	72	1	No Gas	-1.886	ug/l	67519.85
Cr	52	72	3	He	0.733	ug/l	7745.40
Mn	55	72	1	No Gas	6.805	ug/l	139722.56
Mn	55	72	3	He	6.775	ug/l	17091.82
Fe	56	72	2	H2	0.646	ug/l	29021.01
Fe	56	72	3	He	0.388	ug/l	20840.73
Co	59	72	1	No Gas	0.033	ug/l	1290.84
Ni	60	72	1	No Gas	1.270	ug/l	5653.24
Ni	60	72	3	He	1.312	ug/l	2015.71
Cu	63	72	1	No Gas	1.276	ug/l	13352.79
Cu	63	72	3	He	1.153	ug/l	4400.12
Cu	65	72	1	No Gas	1.195	ug/l	5650.04
Zn	66	72	1	No Gas	2.548	ug/l	8393.95
Zn	66	72	3	He	2.951	ug/l	2538.02
As	75	72	1	No Gas	-2.137	ug/l	10490.71
As	75	72	3	He	-0.894	ug/l	368.80
Se	78	72	2	H2	0.203	ug/l	148.89
Br	79	72	1	No Gas	11.645	ug/l	104561.39
Br	79	72	2	H2	11.942	ug/l	76559.46
Se	82	72	1	No Gas	-0.259	ug/l	684.08
Kr	84	72	1	No Gas		ug/l	40936.61
Sr	88	72	1	No Gas	177.154	ug/l	3590289.12
Sr	88	72	3	He	169.425	ug/l	572841.89
Mo	95	115	1	No Gas	1.585	ug/l	6318.10
Mo	95	115	3	He	1.697	ug/l	2744.72
Mo	98	115	1	No Gas	1.622	ug/l	10180.01
Ag	107	115	1	No Gas	-0.062	ug/l	58.02
Ag	109	115	1	No Gas	-0.058	ug/l	62.03
Cd	111	115	1	No Gas	0.027	ug/l	63.52

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.030	ug/l	31.78
Cd	114	115	1	No Gas	0.040	ug/l	130.23
Cd	114	115	3	He	0.034	ug/l	76.76
Sn	118	115	1	No Gas	-0.034	ug/l	831.71
Sn	118	115	3	He	-0.012	ug/l	325.56
Sb	121	115	1	No Gas	0.068	ug/l	715.42
Sb	121	115	3	He	0.068	ug/l	261.36
Sb	123	115	1	No Gas	0.073	ug/l	569.40
Sb	123	115	3	He	0.074	ug/l	211.35
Ba	135	115	1	No Gas	4.173	ug/l	6435.42
Ba	137	115	1	No Gas	4.021	ug/l	10636.39
La	139	115	3	He	9.896	ug/l	15.56
Ce	140	115	3	He	0.016	ug/l	38.89
Hg	201	209	1	No Gas	0.006	ug/l	10.00
Hg	202	209	1	No Gas	0.023	ug/l	24.66
Hg	202	209	3	He	0.027	ug/l	8.33
Tl	203	209	3	He	0.039	ug/l	156.07
Tl	205	209	1	No Gas	0.028	ug/l	507.79
Tl	205	209	3	He	0.037	ug/l	348.15
[Pb]	206	209	1	No Gas	0.007	ug/l	134.44
[Pb]	207	209	1	No Gas	0.011	ug/l	112.22
Pb	208	209	1	No Gas	0.006	ug/l	464.45
Th	232	209	3	He	0.003	ug/l	58.02
U	238	209	1	No Gas	0.013	ug/l	138.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2907312.90	108.1
Sc	45	2	H2	1632341.42	102.4
Sc	45	3	He	232542.48	102.9
Ge	72	1	No Gas	665070.76	101.9
Ge	72	2	H2	572739.91	103.0
Ge	72	3	He	128129.42	102.1
In	115	1	No Gas	3076811.77	100.0
In	115	3	He	943297.63	98.5
Tb	159	1	No Gas	2704720.04	101.5
Tb	159	3	He	1490095.80	98.7
Ho	165	1	No Gas	2462187.67	102.3
Ho	165	3	He	1335710.41	96.1
Lu	175	1	No Gas	2242369.74	100.0
Lu	175	3	He	1103340.02	101.3
Bi	209	1	No Gas	1367651.29	95.7
Bi	209	3	He	831889.56	95.8

ICPMS207-B Analytical Data

Sample Name	B22010212-001ADIL
File Name	028ARef.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:47:53
Sample Type	AllRef
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	-1.033	ug/l	9401.35
Be	9	45	1	No Gas	-0.382	ug/l	63.99
B	11	45	1	No Gas	49.958	ug/l	16627.11
Na	23	45	3	He	41603.900	ug/l	4986221.63
Mg	24	45	3	He	18434.812	ug/l	1203808.12
Al	27	45	1	No Gas	7.406	ug/l	25053.23
Si	28	45	2	H2	26676.971	ug/l	7294713.72
K	39	72	3	He	4768.732	ug/l	537814.51
Ca	40	72	2	H2	15848.332	ug/l	16337703.58
Ti	47	72	1	No Gas	0.504	ug/l	695.72
V	51	72	1	No Gas	23.886	ug/l	19470.83
V	51	72	3	He	-1.449	ug/l	26361.39
Cr	52	72	1	No Gas	-3.306	ug/l	74178.67
Cr	52	72	3	He	1.244	ug/l	5146.48
Mn	55	72	1	No Gas	9.880	ug/l	40898.75
Mn	55	72	3	He	7.068	ug/l	3310.05
Fe	56	72	2	H2	6.563	ug/l	31557.16
Fe	56	72	3	He	8.290	ug/l	21428.80
Co	59	72	1	No Gas	0.003	ug/l	642.07
Ni	60	72	1	No Gas	1.648	ug/l	1786.58
Ni	60	72	3	He	1.984	ug/l	706.69
Cu	63	72	1	No Gas	2.138	ug/l	4928.15
Cu	63	72	3	He	1.979	ug/l	1643.10
Cu	65	72	1	No Gas	1.971	ug/l	1986.94
Zn	66	72	1	No Gas	8.574	ug/l	5072.82
Zn	66	72	3	He	8.377	ug/l	1311.18
As	75	72	1	No Gas	-2.812	ug/l	14445.20
As	75	72	3	He	-1.039	ug/l	858.54
Se	78	72	2	H2	0.216	ug/l	58.56
Br	79	72	1	No Gas	11.527	ug/l	34492.96
Br	79	72	2	H2	8.934	ug/l	21913.14
Se	82	72	1	No Gas	-0.590	ug/l	614.60
Kr	84	72	1	No Gas		ug/l	22850.05
Sr	88	72	1	No Gas	180.115	ug/l	627685.03
Sr	88	72	3	He	168.329	ug/l	98043.80
Mo	95	115	1	No Gas	1.708	ug/l	1220.06
Mo	95	115	3	He	1.814	ug/l	527.79
Mo	98	115	1	No Gas	1.748	ug/l	1966.47
Ag	107	115	1	No Gas	-0.319	ug/l	38.02
Ag	109	115	1	No Gas	-0.313	ug/l	22.68
Cd	111	115	1	No Gas	0.118	ug/l	50.59

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.091	ug/l	20.22
Cd	114	115	1	No Gas	0.187	ug/l	106.58
Cd	114	115	3	He	0.112	ug/l	49.33
Sn	118	115	1	No Gas	0.172	ug/l	1054.62
Sn	118	115	3	He	0.224	ug/l	378.90
Sb	121	115	1	No Gas	0.121	ug/l	289.03
Sb	121	115	3	He	0.129	ug/l	120.34
Sb	123	115	1	No Gas	0.120	ug/l	215.02
Sb	123	115	3	He	0.107	ug/l	80.01
Ba	135	115	1	No Gas	4.547	ug/l	1254.24
Ba	137	115	1	No Gas	5.014	ug/l	2385.48
La	139	115	3	He	135.000	ug/l	21.11
Ce	140	115	3	He	0.126	ug/l	50.00
Hg	201	209	1	No Gas	0.066	ug/l	9.67
Hg	202	209	1	No Gas	0.125	ug/l	22.67
Hg	202	209	3	He	0.072	ug/l	6.00
Tl	203	209	3	He	0.028	ug/l	82.03
Tl	205	209	1	No Gas	0.010	ug/l	271.12
Tl	205	209	3	He	0.021	ug/l	176.07
[Pb]	206	209	1	No Gas	0.285	ug/l	241.11
[Pb]	207	209	1	No Gas	0.324	ug/l	208.89
Pb	208	209	1	No Gas	0.284	ug/l	897.79
Th	232	209	3	He	0.042	ug/l	85.37
U	238	209	1	No Gas	0.019	ug/l	50.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2418519.67	89.9
Sc	45	2	H2	1379968.35	86.5
Sc	45	3	He	193775.18	85.7
Ge	72	1	No Gas	571610.22	87.6
Ge	72	2	H2	490487.79	88.2
Ge	72	3	He	110293.92	87.9
In	115	1	No Gas	2724997.13	88.6
In	115	3	He	838114.13	87.5
Tb	159	1	No Gas	2454272.60	92.1
Tb	159	3	He	1362912.44	90.3
Ho	165	1	No Gas	2147962.89	89.2
Ho	165	3	He	1231168.90	88.6
Lu	175	1	No Gas	2000811.08	89.3
Lu	175	3	He	974696.48	89.5
Bi	209	1	No Gas	1232882.67	86.3
Bi	209	3	He	778398.63	89.7

ICPMS207-B Analytical Data

Sample Name	B22010212-001AMS
File Name	029MS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 14:54:06
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	2371.025	ug/l	11306005.72
Be	9	45	1	No Gas	46.151	ug/l	104750.57
B	11	45	1	No Gas	93.985	ug/l	144572.96
Na	23	45	3	He	87557.550	ug/l	53326415.32
Mg	24	45	3	He	66566.238	ug/l	22263270.08
Al	27	45	1	No Gas	46.989	ug/l	543758.57
Si	28	45	2	H2	26440.255	ug/l	36597057.98
K	39	72	3	He	50038.587	ug/l	21532496.90
Ca	40	72	2	H2	59457.736	ug/l	315721700.58
Ti	47	72	1	No Gas	52.265	ug/l	65093.10
V	51	72	1	No Gas	54.472	ug/l	773351.02
V	51	72	3	He	55.733	ug/l	197446.79
Cr	52	72	1	No Gas	49.475	ug/l	757648.10
Cr	52	72	3	He	50.530	ug/l	167020.67
Mn	55	72	1	No Gas	55.379	ug/l	941251.20
Mn	55	72	3	He	54.508	ug/l	119104.80
Fe	56	72	2	H2	4766.543	ug/l	49999885.63
Fe	56	72	3	He	4951.744	ug/l	13958935.11
Co	59	72	1	No Gas	47.335	ug/l	697328.35
Ni	60	72	1	No Gas	48.610	ug/l	163779.86
Ni	60	72	3	He	51.698	ug/l	59765.97
Cu	63	72	1	No Gas	49.869	ug/l	396598.47
Cu	63	72	3	He	53.176	ug/l	154864.48
Cu	65	72	1	No Gas	49.753	ug/l	183520.01
Zn	66	72	1	No Gas	50.382	ug/l	133530.89
Zn	66	72	3	He	51.486	ug/l	36300.64
As	75	72	1	No Gas	51.198	ug/l	199396.68
As	75	72	3	He	48.926	ug/l	40636.17
Se	78	72	2	H2	48.089	ug/l	21677.22
Br	79	72	1	No Gas	14.110	ug/l	107962.83
Br	79	72	2	H2	13.869	ug/l	77425.95
Se	82	72	1	No Gas	48.326	ug/l	9733.95
Kr	84	72	1	No Gas		ug/l	44466.84
Sr	88	72	1	No Gas	219.735	ug/l	3928799.51
Sr	88	72	3	He	212.560	ug/l	634011.42
Mo	95	115	1	No Gas	48.333	ug/l	165943.57
Mo	95	115	3	He	50.895	ug/l	72136.95
Mo	98	115	1	No Gas	47.730	ug/l	257925.00
Ag	107	115	1	No Gas	19.241	ug/l	161024.31
Ag	109	115	1	No Gas	19.353	ug/l	151198.90
Cd	111	115	1	No Gas	48.388	ug/l	81994.18

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.077	ug/l	34497.89
Cd	114	115	1	No Gas	47.809	ug/l	177977.96
Cd	114	115	3	He	50.572	ug/l	81847.51
Sn	118	115	1	No Gas	47.527	ug/l	215958.42
Sn	118	115	3	He	48.877	ug/l	76999.22
Sb	121	115	1	No Gas	40.086	ug/l	311490.66
Sb	121	115	3	He	41.962	ug/l	109833.03
Sb	123	115	1	No Gas	40.256	ug/l	233417.92
Sb	123	115	3	He	42.298	ug/l	85862.04
Ba	135	115	1	No Gas	52.991	ug/l	70427.82
Ba	137	115	1	No Gas	52.651	ug/l	119809.86
La	139	115	3	He	196.510	ug/l	92.22
Ce	140	115	3	He	255.531	ug/l	430939.08
Hg	201	209	1	No Gas	4.974	ug/l	533.57
Hg	202	209	1	No Gas	5.138	ug/l	1215.15
Hg	202	209	3	He	5.327	ug/l	762.20
Tl	203	209	3	He	47.892	ug/l	90233.19
Tl	205	209	1	No Gas	47.944	ug/l	337207.94
Tl	205	209	3	He	47.822	ug/l	215208.09
[Pb]	206	209	1	No Gas	49.625	ug/l	117894.58
[Pb]	207	209	1	No Gas	50.125	ug/l	99921.60
Pb	208	209	1	No Gas	49.628	ug/l	463312.16
Th	232	209	3	He	48.037	ug/l	262296.58
U	238	209	1	No Gas	48.271	ug/l	384655.28

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2567233.00	95.4
Sc	45	2	H2	1442989.78	90.5
Sc	45	3	He	204663.05	90.5
Ge	72	1	No Gas	605154.48	92.8
Ge	72	2	H2	526593.05	94.7
Ge	72	3	He	116446.64	92.8
In	115	1	No Gas	2736611.27	89.0
In	115	3	He	853738.06	89.1
Tb	159	1	No Gas	2527986.94	94.8
Tb	159	3	He	1433790.07	95.0
Ho	165	1	No Gas	2250983.92	93.5
Ho	165	3	He	1313250.36	94.5
Lu	175	1	No Gas	2081696.39	92.9
Lu	175	3	He	1050477.16	96.5
Bi	209	1	No Gas	1250609.12	87.5
Bi	209	3	He	781331.33	90.0

ICPMS207-B Analytical Data

Sample Name	B22010212-001AMSD
File Name	030MSD.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:00:21
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	2368.883	ug/l	11568218.69
Be	9	45	1	No Gas	46.169	ug/l	107323.98
B	11	45	1	No Gas	94.214	ug/l	148425.86
Na	23	45	3	He	87430.187	ug/l	55197520.84
Mg	24	45	3	He	65866.105	ug/l	22838045.75
Al	27	45	1	No Gas	47.534	ug/l	563201.93
Si	28	45	2	H2	28578.198	ug/l	37606971.59
K	39	72	3	He	50676.507	ug/l	22484545.50
Ca	40	72	2	H2	65411.285	ug/l	331578850.50
Ti	47	72	1	No Gas	51.315	ug/l	66738.42
V	51	72	1	No Gas	54.873	ug/l	813959.47
V	51	72	3	He	55.266	ug/l	202155.30
Cr	52	72	1	No Gas	48.256	ug/l	773645.48
Cr	52	72	3	He	49.532	ug/l	168914.19
Mn	55	72	1	No Gas	55.489	ug/l	985116.38
Mn	55	72	3	He	54.649	ug/l	123139.42
Fe	56	72	2	H2	5213.590	ug/l	52208942.52
Fe	56	72	3	He	5000.842	ug/l	14536813.80
Co	59	72	1	No Gas	47.484	ug/l	730548.71
Ni	60	72	1	No Gas	47.436	ug/l	166879.68
Ni	60	72	3	He	51.125	ug/l	60953.12
Cu	63	72	1	No Gas	50.076	ug/l	415777.72
Cu	63	72	3	He	52.730	ug/l	158344.81
Cu	65	72	1	No Gas	49.901	ug/l	192212.70
Zn	66	72	1	No Gas	51.155	ug/l	141606.06
Zn	66	72	3	He	51.176	ug/l	37211.94
As	75	72	1	No Gas	50.978	ug/l	207497.01
As	75	72	3	He	49.146	ug/l	42085.24
Se	78	72	2	H2	52.183	ug/l	22454.73
Br	79	72	1	No Gas	14.119	ug/l	112706.55
Br	79	72	2	H2	15.556	ug/l	81162.07
Se	82	72	1	No Gas	48.947	ug/l	10283.47
Kr	84	72	1	No Gas		ug/l	45434.61
Sr	88	72	1	No Gas	220.063	ug/l	4110101.93
Sr	88	72	3	He	212.919	ug/l	654741.59
Mo	95	115	1	No Gas	47.771	ug/l	171189.47
Mo	95	115	3	He	51.018	ug/l	74081.21
Mo	98	115	1	No Gas	47.631	ug/l	268616.31
Ag	107	115	1	No Gas	19.150	ug/l	167309.62
Ag	109	115	1	No Gas	19.361	ug/l	157893.31
Cd	111	115	1	No Gas	48.759	ug/l	86259.05

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.269	ug/l	35476.50
Cd	114	115	1	No Gas	48.172	ug/l	187194.81
Cd	114	115	3	He	50.513	ug/l	83748.92
Sn	118	115	1	No Gas	47.188	ug/l	223840.84
Sn	118	115	3	He	49.516	ug/l	79911.24
Sb	121	115	1	No Gas	41.132	ug/l	333645.41
Sb	121	115	3	He	43.035	ug/l	115391.93
Sb	123	115	1	No Gas	41.483	ug/l	251039.84
Sb	123	115	3	He	43.701	ug/l	90876.69
Ba	135	115	1	No Gas	53.671	ug/l	74440.73
Ba	137	115	1	No Gas	52.691	ug/l	125118.56
La	139	115	3	He	566.355	ug/l	253.34
Ce	140	115	3	He	255.052	ug/l	440645.41
Hg	201	209	1	No Gas	5.091	ug/l	565.90
Hg	202	209	1	No Gas	5.141	ug/l	1261.47
Hg	202	209	3	He	5.470	ug/l	798.20
Tl	203	209	3	He	47.930	ug/l	92063.84
Tl	205	209	1	No Gas	48.342	ug/l	352547.47
Tl	205	209	3	He	48.268	ug/l	221412.95
[Pb]	206	209	1	No Gas	50.007	ug/l	123187.24
[Pb]	207	209	1	No Gas	50.638	ug/l	104669.83
Pb	208	209	1	No Gas	50.306	ug/l	486983.12
Th	232	209	3	He	47.809	ug/l	266284.87
U	238	209	1	No Gas	48.505	ug/l	400788.23

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2629906.04	97.8
Sc	45	2	H2	1372620.91	86.1
Sc	45	3	He	212172.54	93.9
Ge	72	1	No Gas	631449.97	96.8
Ge	72	2	H2	502821.98	90.4
Ge	72	3	He	120045.69	95.6
In	115	1	No Gas	2858417.62	92.9
In	115	3	He	874606.38	91.3
Tb	159	1	No Gas	2615719.30	98.1
Tb	159	3	He	1436603.38	95.1
Ho	165	1	No Gas	2360591.42	98.1
Ho	165	3	He	1346467.98	96.8
Lu	175	1	No Gas	2195019.34	97.9
Lu	175	3	He	1098515.53	100.9
Bi	209	1	No Gas	1297208.41	90.8
Bi	209	3	He	797276.88	91.8

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	031BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:06:35
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	3.529	ug/l	27360.83
Be	9	45	1	No Gas	-0.087	ug/l	42.66
B	11	45	1	No Gas	0.934	ug/l	3381.74
Na	23	45	3	He	31.736	ug/l	68770.51
Mg	24	45	3	He	3.508	ug/l	2501.92
Al	27	45	1	No Gas	0.915	ug/l	19288.02
Si	28	45	2	H2	-10.428	ug/l	13121.68
K	39	72	3	He	31.713	ug/l	156127.58
Ca	40	72	2	H2	6.433	ug/l	241361.07
Ti	47	72	1	No Gas	0.157	ug/l	804.57
V	51	72	1	No Gas	3.912	ug/l	6918.10
V	51	72	3	He	0.321	ug/l	28663.39
Cr	52	72	1	No Gas	-0.220	ug/l	83878.02
Cr	52	72	3	He	-0.003	ug/l	4434.02
Mn	55	72	1	No Gas	0.566	ug/l	18651.51
Mn	55	72	3	He	-0.003	ug/l	304.27
Fe	56	72	2	H2	0.356	ug/l	22553.34
Fe	56	72	3	He	0.811	ug/l	19440.72
Co	59	72	1	No Gas	-0.006	ug/l	572.22
Ni	60	72	1	No Gas	0.075	ug/l	998.06
Ni	60	72	3	He	0.028	ug/l	297.78
Cu	63	72	1	No Gas	-0.002	ug/l	1690.78
Cu	63	72	3	He	-0.019	ug/l	475.91
Cu	65	72	1	No Gas	-0.022	ug/l	519.56
Zn	66	72	1	No Gas	-0.055	ug/l	554.25
Zn	66	72	3	He	-0.038	ug/l	141.11
As	75	72	1	No Gas	-0.912	ug/l	13939.89
As	75	72	3	He	0.005	ug/l	1044.62
Se	78	72	2	H2	0.028	ug/l	53.33
Br	79	72	1	No Gas	0.444	ug/l	24589.26
Br	79	72	2	H2	0.122	ug/l	15171.23
Se	82	72	1	No Gas	0.262	ug/l	717.94
Kr	84	72	1	No Gas		ug/l	19088.25
Sr	88	72	1	No Gas	0.011	ug/l	402.54
Sr	88	72	3	He	0.002	ug/l	114.45
Mo	95	115	1	No Gas	0.047	ug/l	182.23
Mo	95	115	3	He	0.037	ug/l	61.11
Mo	98	115	1	No Gas	0.043	ug/l	267.09
Ag	107	115	1	No Gas	0.002	ug/l	596.92
Ag	109	115	1	No Gas	0.000	ug/l	525.55
Cd	111	115	1	No Gas	0.008	ug/l	22.22

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	7.45
Cd	114	115	1	No Gas	0.006	ug/l	-12.53
Cd	114	115	3	He	0.003	ug/l	16.97
Sn	118	115	1	No Gas	1.768	ug/l	9101.64
Sn	118	115	3	He	1.776	ug/l	3165.94
Sb	121	115	1	No Gas	0.784	ug/l	6341.74
Sb	121	115	3	He	0.740	ug/l	2034.69
Sb	123	115	1	No Gas	0.808	ug/l	4874.34
Sb	123	115	3	He	0.752	ug/l	1599.92
Ba	135	115	1	No Gas	0.016	ug/l	36.59
Ba	137	115	1	No Gas	-0.008	ug/l	26.61
La	139	115	3	He	-4.829	ug/l	7.78
Ce	140	115	3	He	0.009	ug/l	22.22
Hg	201	209	1	No Gas	0.024	ug/l	11.33
Hg	202	209	1	No Gas	0.013	ug/l	20.67
Hg	202	209	3	He	0.044	ug/l	10.67
Tl	203	209	3	He	0.060	ug/l	194.08
Tl	205	209	1	No Gas	0.051	ug/l	641.13
Tl	205	209	3	He	0.062	ug/l	457.53
[Pb]	206	209	1	No Gas	0.001	ug/l	111.11
[Pb]	207	209	1	No Gas	0.000	ug/l	82.22
Pb	208	209	1	No Gas	0.000	ug/l	373.34
Th	232	209	3	He	0.019	ug/l	148.06
U	238	209	1	No Gas	0.003	ug/l	44.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2480415.77	92.2
Sc	45	2	H2	1382584.86	86.7
Sc	45	3	He	197163.99	87.2
Ge	72	1	No Gas	599368.31	91.9
Ge	72	2	H2	504305.61	90.7
Ge	72	3	He	112242.81	89.4
In	115	1	No Gas	2725567.08	88.6
In	115	3	He	849048.75	88.7
Tb	159	1	No Gas	2448883.64	91.9
Tb	159	3	He	1366604.33	90.5
Ho	165	1	No Gas	2220584.44	92.2
Ho	165	3	He	1271471.27	91.5
Lu	175	1	No Gas	2049232.86	91.4
Lu	175	3	He	989121.07	90.8
Bi	209	1	No Gas	1281621.06	89.7
Bi	209	3	He	807508.10	93.0

ICPMS207-B Analytical Data

Sample Name	B22010213-003A
File Name	032SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:12:48
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	-0.214	ug/l	10814.18
Be	9	45	1	No Gas	-0.087	ug/l	45.99
B	11	45	1	No Gas	103.124	ug/l	177254.13
Na	23	45	3	He	51149.189	ug/l	35160048.92
Mg	24	45	3	He	21463.826	ug/l	8097805.64
Al	27	45	1	No Gas	1.315	ug/l	26782.85
Si	28	45	2	H2	19891.510	ug/l	30841338.83
K	39	72	3	He	2368.226	ug/l	1293924.22
Ca	40	72	2	H2	21385.176	ug/l	124059848.81
Ti	47	72	1	No Gas	0.784	ug/l	1715.17
V	51	72	1	No Gas	14.527	ug/l	185098.66
V	51	72	3	He	4.145	ug/l	45272.63
Cr	52	72	1	No Gas	-2.244	ug/l	60276.56
Cr	52	72	3	He	0.453	ug/l	6640.42
Mn	55	72	1	No Gas	64.075	ug/l	1197918.39
Mn	55	72	3	He	62.042	ug/l	151715.82
Fe	56	72	2	H2	10.404	ug/l	139920.53
Fe	56	72	3	He	10.490	ug/l	52422.24
Co	59	72	1	No Gas	0.115	ug/l	2581.79
Ni	60	72	1	No Gas	3.870	ug/l	15097.94
Ni	60	72	3	He	3.928	ug/l	5357.68
Cu	63	72	1	No Gas	3.679	ug/l	33929.49
Cu	63	72	3	He	3.553	ug/l	12138.93
Cu	65	72	1	No Gas	3.630	ug/l	15350.91
Zn	66	72	1	No Gas	10.769	ug/l	32037.54
Zn	66	72	3	He	10.918	ug/l	8766.00
As	75	72	1	No Gas	-1.930	ug/l	11009.78
As	75	72	3	He	-0.942	ug/l	320.80
Se	78	72	2	H2	0.521	ug/l	301.00
Br	79	72	1	No Gas	45.373	ug/l	327875.81
Br	79	72	2	H2	48.774	ug/l	254697.84
Se	82	72	1	No Gas	1.349	ug/l	998.24
Kr	84	72	1	No Gas		ug/l	41937.78
Sr	88	72	1	No Gas	174.057	ug/l	3429070.31
Sr	88	72	3	He	162.577	ug/l	542813.15
Mo	95	115	1	No Gas	0.240	ug/l	968.93
Mo	95	115	3	He	0.262	ug/l	420.01
Mo	98	115	1	No Gas	0.242	ug/l	1536.90
Ag	107	115	1	No Gas	-0.063	ug/l	46.02
Ag	109	115	1	No Gas	-0.061	ug/l	42.02
Cd	111	115	1	No Gas	0.039	ug/l	87.14

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.047	ug/l	44.00
Cd	114	115	1	No Gas	0.053	ug/l	186.65
Cd	114	115	3	He	0.053	ug/l	109.23
Sn	118	115	1	No Gas	-0.120	ug/l	379.25
Sn	118	115	3	He	-0.099	ug/l	164.45
Sb	121	115	1	No Gas	0.241	ug/l	2260.75
Sb	121	115	3	He	0.234	ug/l	735.43
Sb	123	115	1	No Gas	0.248	ug/l	1735.28
Sb	123	115	3	He	0.240	ug/l	578.40
Ba	135	115	1	No Gas	11.380	ug/l	17426.39
Ba	137	115	1	No Gas	11.267	ug/l	29552.77
La	139	115	3	He	13.121	ug/l	16.67
Ce	140	115	3	He	0.024	ug/l	52.22
Hg	201	209	1	No Gas	0.061	ug/l	16.67
Hg	202	209	1	No Gas	0.007	ug/l	21.00
Hg	202	209	3	He	0.051	ug/l	12.00
Tl	203	209	3	He	0.050	ug/l	177.41
Tl	205	209	1	No Gas	0.023	ug/l	475.57
Tl	205	209	3	He	0.050	ug/l	409.51
[Pb]	206	209	1	No Gas	0.163	ug/l	562.24
[Pb]	207	209	1	No Gas	0.153	ug/l	438.90
Pb	208	209	1	No Gas	0.160	ug/l	2128.97
Th	232	209	3	He	0.006	ug/l	75.37
U	238	209	1	No Gas	0.029	ug/l	290.28

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2790140.96	103.7
Sc	45	2	H2	1569105.86	98.4
Sc	45	3	He	224105.99	99.1
Ge	72	1	No Gas	646475.98	99.1
Ge	72	2	H2	557895.15	100.3
Ge	72	3	He	126533.66	100.8
In	115	1	No Gas	3058790.84	99.4
In	115	3	He	916765.84	95.7
Tb	159	1	No Gas	2772333.10	104.0
Tb	159	3	He	1489203.60	98.6
Ho	165	1	No Gas	2477766.59	102.9
Ho	165	3	He	1376440.57	99.0
Lu	175	1	No Gas	2313204.43	103.2
Lu	175	3	He	1106169.19	101.6
Bi	209	1	No Gas	1398352.45	97.9
Bi	209	3	He	826835.84	95.2

ICPMS207-B Analytical Data

Sample Name	B22010214-001A
File Name	033SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:19:01
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	-0.746	ug/l	7819.16
Be	9	45	1	No Gas	-0.092	ug/l	32.99
B	11	45	1	No Gas	71.640	ug/l	121412.76
Na	23	45	3	He	35193.722	ug/l	23652270.48
Mg	24	45	3	He	8459.559	ug/l	3119162.62
Al	27	45	1	No Gas	1.502	ug/l	28606.17
Si	28	45	2	H2	22368.335	ug/l	34193365.89
K	39	72	3	He	1701.189	ug/l	948188.66
Ca	40	72	2	H2	7355.469	ug/l	42379079.25
Ti	47	72	1	No Gas	0.911	ug/l	1830.30
V	51	72	1	No Gas	23.807	ug/l	329721.28
V	51	72	3	He	12.499	ug/l	71579.94
Cr	52	72	1	No Gas	-0.256	ug/l	87153.60
Cr	52	72	3	He	2.877	ug/l	14943.17
Mn	55	72	1	No Gas	0.737	ug/l	22552.54
Mn	55	72	3	He	0.463	ug/l	1438.45
Fe	56	72	2	H2	0.985	ug/l	31809.60
Fe	56	72	3	He	0.999	ug/l	21893.25
Co	59	72	1	No Gas	-0.007	ug/l	575.54
Ni	60	72	1	No Gas	0.189	ug/l	1453.87
Ni	60	72	3	He	0.250	ug/l	604.46
Cu	63	72	1	No Gas	2.776	ug/l	25244.48
Cu	63	72	3	He	2.720	ug/l	9180.04
Cu	65	72	1	No Gas	2.646	ug/l	11007.25
Zn	66	72	1	No Gas	10.598	ug/l	30560.31
Zn	66	72	3	He	10.850	ug/l	8474.75
As	75	72	1	No Gas	-1.626	ug/l	11825.20
As	75	72	3	He	-0.932	ug/l	320.67
Se	78	72	2	H2	0.128	ug/l	107.00
Br	79	72	1	No Gas	12.034	ug/l	100990.21
Br	79	72	2	H2	12.101	ug/l	74576.40
Se	82	72	1	No Gas	1.027	ug/l	901.03
Kr	84	72	1	No Gas		ug/l	26911.84
Sr	88	72	1	No Gas	60.807	ug/l	1160600.25
Sr	88	72	3	He	56.858	ug/l	184759.00
Mo	95	115	1	No Gas	1.039	ug/l	4090.61
Mo	95	115	3	He	1.126	ug/l	1766.79
Mo	98	115	1	No Gas	1.064	ug/l	6591.83
Ag	107	115	1	No Gas	-0.064	ug/l	44.02
Ag	109	115	1	No Gas	-0.062	ug/l	32.68
Cd	111	115	1	No Gas	0.027	ug/l	61.73

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	0.036	ug/l	110.93
Cd	114	115	3	He	0.022	ug/l	53.43
Sn	118	115	1	No Gas	-0.115	ug/l	402.54
Sn	118	115	3	He	-0.084	ug/l	190.00
Sb	121	115	1	No Gas	0.127	ug/l	1228.51
Sb	121	115	3	He	0.117	ug/l	394.38
Sb	123	115	1	No Gas	0.125	ug/l	905.79
Sb	123	115	3	He	0.129	ug/l	326.71
Ba	135	115	1	No Gas	1.908	ug/l	2911.21
Ba	137	115	1	No Gas	1.848	ug/l	4847.94
La	139	115	3	He	-8.479	ug/l	6.67
Ce	140	115	3	He	0.007	ug/l	21.11
Hg	201	209	1	No Gas	0.009	ug/l	10.67
Hg	202	209	1	No Gas	0.064	ug/l	36.99
Hg	202	209	3	He	0.095	ug/l	19.33
Tl	203	209	3	He	0.013	ug/l	104.04
Tl	205	209	1	No Gas	0.008	ug/l	364.45
Tl	205	209	3	He	0.016	ug/l	250.11
[Pb]	206	209	1	No Gas	0.137	ug/l	501.12
[Pb]	207	209	1	No Gas	0.135	ug/l	406.68
Pb	208	209	1	No Gas	0.136	ug/l	1913.40
Th	232	209	3	He	0.008	ug/l	89.37
U	238	209	1	No Gas	0.006	ug/l	84.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2736658.19	101.7
Sc	45	2	H2	1547092.72	97.0
Sc	45	3	He	218955.05	96.9
Ge	72	1	No Gas	626410.89	96.0
Ge	72	2	H2	552121.77	99.3
Ge	72	3	He	123088.55	98.1
In	115	1	No Gas	3032924.70	98.6
In	115	3	He	912986.07	95.3
Tb	159	1	No Gas	2747117.00	103.1
Tb	159	3	He	1485150.01	98.4
Ho	165	1	No Gas	2470573.56	102.6
Ho	165	3	He	1347033.57	96.9
Lu	175	1	No Gas	2321667.13	103.6
Lu	175	3	He	1081860.66	99.3
Bi	209	1	No Gas	1426203.06	99.8
Bi	209	3	He	848696.47	97.8

ICPMS207-B Analytical Data

Sample Name	B22010219-001A
File Name	034SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:25:15
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	-0.798	ug/l	7438.14
Be	9	45	1	No Gas	-0.092	ug/l	32.66
B	11	45	1	No Gas	94.937	ug/l	157913.39
Na	23	45	3	He	58672.158	ug/l	39214187.47
Mg	24	45	3	He	31545.177	ug/l	11573409.52
Al	27	45	1	No Gas	2.654	ug/l	42376.30
Si	28	45	2	H2	17589.982	ug/l	26461266.90
K	39	72	3	He	2939.216	ug/l	1531432.03
Ca	40	72	2	H2	27510.211	ug/l	155494003.53
Ti	47	72	1	No Gas	0.761	ug/l	1655.10
V	51	72	1	No Gas	11.026	ug/l	124379.40
V	51	72	3	He	0.332	ug/l	31612.79
Cr	52	72	1	No Gas	-3.109	ug/l	46577.54
Cr	52	72	3	He	-0.109	ug/l	4512.94
Mn	55	72	1	No Gas	257.709	ug/l	4707021.55
Mn	55	72	3	He	248.579	ug/l	593001.60
Fe	56	72	2	H2	4.750	ug/l	73326.87
Fe	56	72	3	He	4.632	ug/l	33185.66
Co	59	72	1	No Gas	0.427	ug/l	7513.71
Ni	60	72	1	No Gas	2.557	ug/l	10073.49
Ni	60	72	3	He	2.585	ug/l	3547.12
Cu	63	72	1	No Gas	0.607	ug/l	7017.18
Cu	63	72	3	He	0.345	ug/l	1680.76
Cu	65	72	1	No Gas	0.442	ug/l	2399.16
Zn	66	72	1	No Gas	1.465	ug/l	4925.92
Zn	66	72	3	He	1.529	ug/l	1357.85
As	75	72	1	No Gas	-1.175	ug/l	13733.04
As	75	72	3	He	-0.330	ug/l	854.74
Se	78	72	2	H2	0.053	ug/l	69.78
Br	79	72	1	No Gas	42.424	ug/l	302736.57
Br	79	72	2	H2	43.357	ug/l	222446.46
Se	82	72	1	No Gas	0.626	ug/l	833.16
Kr	84	72	1	No Gas		ug/l	48014.62
Sr	88	72	1	No Gas	235.622	ug/l	4562033.55
Sr	88	72	3	He	220.989	ug/l	721025.05
Mo	95	115	1	No Gas	12.231	ug/l	47189.95
Mo	95	115	3	He	13.354	ug/l	20486.98
Mo	98	115	1	No Gas	12.306	ug/l	74736.38
Ag	107	115	1	No Gas	-0.065	ug/l	32.68
Ag	109	115	1	No Gas	-0.062	ug/l	30.68
Cd	111	115	1	No Gas	0.021	ug/l	49.57

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.028	ug/l	28.55
Cd	114	115	1	No Gas	0.031	ug/l	91.85
Cd	114	115	3	He	0.029	ug/l	63.49
Sn	118	115	1	No Gas	-0.033	ug/l	811.75
Sn	118	115	3	He	-0.011	ug/l	311.12
Sb	121	115	1	No Gas	0.333	ug/l	3013.29
Sb	121	115	3	He	0.354	ug/l	1057.15
Sb	123	115	1	No Gas	0.346	ug/l	2332.43
Sb	123	115	3	He	0.356	ug/l	820.11
Ba	135	115	1	No Gas	4.028	ug/l	6029.39
Ba	137	115	1	No Gas	4.231	ug/l	10862.75
La	139	115	3	He	-8.250	ug/l	6.67
Ce	140	115	3	He	0.017	ug/l	37.78
Hg	201	209	1	No Gas	0.013	ug/l	11.00
Hg	202	209	1	No Gas	0.159	ug/l	61.66
Hg	202	209	3	He	0.196	ug/l	33.66
Tl	203	209	3	He	0.018	ug/l	108.71
Tl	205	209	1	No Gas	0.003	ug/l	317.78
Tl	205	209	3	He	0.019	ug/l	252.77
[Pb]	206	209	1	No Gas	-0.004	ug/l	105.55
[Pb]	207	209	1	No Gas	0.004	ug/l	97.78
Pb	208	209	1	No Gas	0.003	ug/l	445.56
Th	232	209	3	He	0.002	ug/l	50.02
U	238	209	1	No Gas	0.077	ug/l	729.54

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2697295.09	100.3
Sc	45	2	H2	1522139.93	95.5
Sc	45	3	He	217945.94	96.4
Ge	72	1	No Gas	635384.57	97.4
Ge	72	2	H2	543837.77	97.8
Ge	72	3	He	123644.11	98.5
In	115	1	No Gas	2985199.82	97.1
In	115	3	He	896845.06	93.6
Tb	159	1	No Gas	2755231.75	103.4
Tb	159	3	He	1456099.21	96.4
Ho	165	1	No Gas	2473729.58	102.8
Ho	165	3	He	1350438.36	97.1
Lu	175	1	No Gas	2258263.18	100.7
Lu	175	3	He	1063811.72	97.7
Bi	209	1	No Gas	1396876.47	97.8
Bi	209	3	He	807149.74	93.0

ICPMS207-B Analytical Data

Sample Name	B22010366-001A
File Name	035SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:31:29
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	0.099	ug/l	12037.58
Be	9	45	1	No Gas	-0.094	ug/l	28.33
B	11	45	1	No Gas	68.958	ug/l	115074.85
Na	23	45	3	He	39236.135	ug/l	26284920.16
Mg	24	45	3	He	10097.663	ug/l	3711702.39
Al	27	45	1	No Gas	4.713	ug/l	67581.68
Si	28	45	2	H2	27579.492	ug/l	42048124.61
K	39	72	3	He	1959.321	ug/l	1085656.95
Ca	40	72	2	H2	9760.133	ug/l	55649501.71
Ti	47	72	1	No Gas	1.656	ug/l	2794.75
V	51	72	1	No Gas	3.817	ug/l	5569.01
V	51	72	3	He	-6.674	ug/l	8509.17
Cr	52	72	1	No Gas	-2.869	ug/l	49090.64
Cr	52	72	3	He	-0.190	ug/l	4276.21
Mn	55	72	1	No Gas	536.759	ug/l	9598438.58
Mn	55	72	3	He	499.035	ug/l	1203825.60
Fe	56	72	2	H2	354.128	ug/l	3994341.60
Fe	56	72	3	He	352.433	ug/l	1117244.95
Co	59	72	1	No Gas	0.500	ug/l	8492.33
Ni	60	72	1	No Gas	0.985	ug/l	4278.83
Ni	60	72	3	He	1.022	ug/l	1597.88
Cu	63	72	1	No Gas	0.466	ug/l	5693.41
Cu	63	72	3	He	0.282	ug/l	1497.78
Cu	65	72	1	No Gas	0.327	ug/l	1900.89
Zn	66	72	1	No Gas	1.551	ug/l	5069.18
Zn	66	72	3	He	1.509	ug/l	1357.85
As	75	72	1	No Gas	-1.152	ug/l	13537.90
As	75	72	3	He	-0.124	ug/l	1048.49
Se	78	72	2	H2	-0.035	ug/l	27.67
Br	79	72	1	No Gas	10.206	ug/l	88607.96
Br	79	72	2	H2	10.135	ug/l	64482.29
Se	82	72	1	No Gas	1.180	ug/l	927.02
Kr	84	72	1	No Gas		ug/l	27668.52
Sr	88	72	1	No Gas	75.665	ug/l	1435904.78
Sr	88	72	3	He	68.718	ug/l	226864.99
Mo	95	115	1	No Gas	0.393	ug/l	1567.87
Mo	95	115	3	He	0.453	ug/l	708.92
Mo	98	115	1	No Gas	0.408	ug/l	2557.05
Ag	107	115	1	No Gas	-0.065	ug/l	35.35
Ag	109	115	1	No Gas	-0.061	ug/l	40.02
Cd	111	115	1	No Gas	0.012	ug/l	33.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.014	ug/l	18.56
Cd	114	115	1	No Gas	0.026	ug/l	70.03
Cd	114	115	3	He	0.020	ug/l	49.22
Sn	118	115	1	No Gas	-0.082	ug/l	575.54
Sn	118	115	3	He	-0.065	ug/l	222.23
Sb	121	115	1	No Gas	0.208	ug/l	1956.34
Sb	121	115	3	He	0.222	ug/l	690.09
Sb	123	115	1	No Gas	0.207	ug/l	1459.23
Sb	123	115	3	He	0.235	ug/l	559.07
Ba	135	115	1	No Gas	3.569	ug/l	5453.62
Ba	137	115	1	No Gas	3.580	ug/l	9387.94
La	139	115	3	He	59.559	ug/l	37.78
Ce	140	115	3	He	0.124	ug/l	235.56
Hg	201	209	1	No Gas	0.065	ug/l	18.00
Hg	202	209	1	No Gas	1.194	ug/l	353.94
Hg	202	209	3	He	1.134	ug/l	184.96
Tl	203	209	3	He	0.007	ug/l	93.37
Tl	205	209	1	No Gas	-0.009	ug/l	231.12
Tl	205	209	3	He	0.005	ug/l	196.08
[Pb]	206	209	1	No Gas	0.002	ug/l	128.89
[Pb]	207	209	1	No Gas	0.009	ug/l	113.33
Pb	208	209	1	No Gas	0.011	ug/l	553.34
Th	232	209	3	He	0.003	ug/l	58.69
U	238	209	1	No Gas	0.014	ug/l	154.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2691313.41	100.0
Sc	45	2	H2	1543316.86	96.8
Sc	45	3	He	218315.94	96.6
Ge	72	1	No Gas	622679.50	95.4
Ge	72	2	H2	547148.60	98.4
Ge	72	3	He	125076.03	99.6
In	115	1	No Gas	3046409.75	99.0
In	115	3	He	905159.37	94.5
Tb	159	1	No Gas	2659003.70	99.8
Tb	159	3	He	1490024.84	98.7
Ho	165	1	No Gas	2389625.09	99.3
Ho	165	3	He	1383877.42	99.5
Lu	175	1	No Gas	2299384.80	102.6
Lu	175	3	He	1095731.87	100.6
Bi	209	1	No Gas	1457573.01	102.0
Bi	209	3	He	849992.86	97.9

ICPMS207-B Analytical Data

Sample Name	B22010369-001A
File Name	036SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:37:42
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	-0.026	ug/l	11355.46
Be	9	45	1	No Gas	-0.092	ug/l	33.99
B	11	45	1	No Gas	208.450	ug/l	342457.48
Na	23	45	3	He	95524.713	ug/l	62481595.18
Mg	24	45	3	He	8624.163	ug/l	3099288.01
Al	27	45	1	No Gas	1.535	ug/l	28448.12
Si	28	45	2	H2	30699.242	ug/l	45856146.74
K	39	72	3	He	3147.867	ug/l	1593496.97
Ca	40	72	2	H2	5069.408	ug/l	28634583.16
Ti	47	72	1	No Gas	1.606	ug/l	2729.67
V	51	72	1	No Gas	47.112	ug/l	703686.22
V	51	72	3	He	36.543	ug/l	148241.75
Cr	52	72	1	No Gas	0.272	ug/l	94209.17
Cr	52	72	3	He	3.575	ug/l	17087.73
Mn	55	72	1	No Gas	0.233	ug/l	13419.52
Mn	55	72	3	He	0.007	ug/l	348.60
Fe	56	72	2	H2	0.300	ug/l	23529.07
Fe	56	72	3	He	0.036	ug/l	18613.81
Co	59	72	1	No Gas	-0.007	ug/l	575.54
Ni	60	72	1	No Gas	0.094	ug/l	1104.52
Ni	60	72	3	He	0.082	ug/l	387.78
Cu	63	72	1	No Gas	0.629	ug/l	7055.87
Cu	63	72	3	He	0.195	ug/l	1177.15
Cu	65	72	1	No Gas	0.284	ug/l	1735.47
Zn	66	72	1	No Gas	0.234	ug/l	1385.37
Zn	66	72	3	He	0.226	ug/l	350.01
As	75	72	1	No Gas	-1.204	ug/l	13335.42
As	75	72	3	He	-0.781	ug/l	445.67
Se	78	72	2	H2	0.305	ug/l	188.89
Br	79	72	1	No Gas	27.355	ug/l	199361.41
Br	79	72	2	H2	27.365	ug/l	145194.80
Se	82	72	1	No Gas	0.730	ug/l	837.69
Kr	84	72	1	No Gas		ug/l	24938.90
Sr	88	72	1	No Gas	53.725	ug/l	1019520.10
Sr	88	72	3	He	50.022	ug/l	159734.46
Mo	95	115	1	No Gas	0.541	ug/l	2061.27
Mo	95	115	3	He	0.621	ug/l	944.48
Mo	98	115	1	No Gas	0.535	ug/l	3206.70
Ag	107	115	1	No Gas	-0.065	ug/l	29.35
Ag	109	115	1	No Gas	-0.062	ug/l	30.68
Cd	111	115	1	No Gas	0.017	ug/l	41.59

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.013	ug/l	17.56
Cd	114	115	1	No Gas	0.029	ug/l	77.87
Cd	114	115	3	He	0.018	ug/l	43.75
Sn	118	115	1	No Gas	-0.115	ug/l	389.23
Sn	118	115	3	He	-0.120	ug/l	124.44
Sb	121	115	1	No Gas	0.114	ug/l	1077.82
Sb	121	115	3	He	0.119	ug/l	385.38
Sb	123	115	1	No Gas	0.120	ug/l	838.78
Sb	123	115	3	He	0.124	ug/l	305.04
Ba	135	115	1	No Gas	4.873	ug/l	7131.07
Ba	137	115	1	No Gas	4.899	ug/l	12294.46
La	139	115	3	He	-2.963	ug/l	8.89
Ce	140	115	3	He	0.008	ug/l	21.11
Hg	201	209	1	No Gas	0.035	ug/l	13.33
Hg	202	209	1	No Gas	0.014	ug/l	22.33
Hg	202	209	3	He	0.044	ug/l	11.00
Tl	203	209	3	He	0.004	ug/l	84.03
Tl	205	209	1	No Gas	-0.001	ug/l	278.89
Tl	205	209	3	He	0.005	ug/l	190.08
[Pb]	206	209	1	No Gas	-0.015	ug/l	74.45
[Pb]	207	209	1	No Gas	-0.007	ug/l	71.11
Pb	208	209	1	No Gas	-0.011	ug/l	282.23
Th	232	209	3	He	0.001	ug/l	46.69
U	238	209	1	No Gas	0.014	ug/l	145.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2682747.21	99.7
Sc	45	2	H2	1512186.47	94.8
Sc	45	3	He	213411.80	94.4
Ge	72	1	No Gas	622743.67	95.5
Ge	72	2	H2	539978.46	97.1
Ge	72	3	He	120979.74	96.4
In	115	1	No Gas	2919383.14	94.9
In	115	3	He	881458.88	92.0
Tb	159	1	No Gas	2663377.29	99.9
Tb	159	3	He	1447562.97	95.9
Ho	165	1	No Gas	2383521.38	99.0
Ho	165	3	He	1339871.09	96.4
Lu	175	1	No Gas	2220102.45	99.0
Lu	175	3	He	1073199.23	98.6
Bi	209	1	No Gas	1373241.57	96.1
Bi	209	3	He	832238.95	95.9

ICPMS207-B Analytical Data

Sample Name	B22010403-001A
File Name	037SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:43:56
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	-0.635	ug/l	8095.40
Be	9	45	1	No Gas	-0.094	ug/l	27.66
B	11	45	1	No Gas	96.096	ug/l	156353.82
Na	23	45	3	He	51135.372	ug/l	33576128.94
Mg	24	45	3	He	12295.634	ug/l	4431488.34
Al	27	45	1	No Gas	1.814	ug/l	31323.01
Si	28	45	2	H2	23869.058	ug/l	35723603.95
K	39	72	3	He	1792.403	ug/l	981211.81
Ca	40	72	2	H2	9929.185	ug/l	55690158.62
Ti	47	72	1	No Gas	1.066	ug/l	1987.14
V	51	72	1	No Gas	27.459	ug/l	380151.74
V	51	72	3	He	15.088	ug/l	79352.33
Cr	52	72	1	No Gas	-1.258	ug/l	70982.79
Cr	52	72	3	He	1.645	ug/l	10530.48
Mn	55	72	1	No Gas	0.812	ug/l	23358.84
Mn	55	72	3	He	0.581	ug/l	1701.76
Fe	56	72	2	H2	3.134	ug/l	54736.77
Fe	56	72	3	He	2.879	ug/l	27393.01
Co	59	72	1	No Gas	0.029	ug/l	1127.81
Ni	60	72	1	No Gas	1.254	ug/l	5144.05
Ni	60	72	3	He	1.184	ug/l	1757.90
Cu	63	72	1	No Gas	1.879	ug/l	17260.42
Cu	63	72	3	He	1.665	ug/l	5788.66
Cu	65	72	1	No Gas	1.732	ug/l	7254.05
Zn	66	72	1	No Gas	5.146	ug/l	14866.47
Zn	66	72	3	He	4.988	ug/l	3957.23
As	75	72	1	No Gas	-1.383	ug/l	12454.46
As	75	72	3	He	-0.935	ug/l	315.07
Se	78	72	2	H2	0.310	ug/l	190.78
Br	79	72	1	No Gas	16.363	ug/l	126146.54
Br	79	72	2	H2	15.971	ug/l	90990.71
Se	82	72	1	No Gas	0.487	ug/l	775.29
Kr	84	72	1	No Gas		ug/l	27855.04
Sr	88	72	1	No Gas	75.936	ug/l	1416069.79
Sr	88	72	3	He	68.891	ug/l	221686.35
Mo	95	115	1	No Gas	0.888	ug/l	3361.53
Mo	95	115	3	He	0.914	ug/l	1400.08
Mo	98	115	1	No Gas	0.898	ug/l	5352.28
Ag	107	115	1	No Gas	-0.059	ug/l	83.37
Ag	109	115	1	No Gas	-0.058	ug/l	64.70
Cd	111	115	1	No Gas	0.011	ug/l	29.85

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.013	ug/l	17.67
Cd	114	115	1	No Gas	0.024	ug/l	61.22
Cd	114	115	3	He	0.017	ug/l	42.87
Sn	118	115	1	No Gas	-0.116	ug/l	379.26
Sn	118	115	3	He	-0.123	ug/l	120.00
Sb	121	115	1	No Gas	0.042	ug/l	456.39
Sb	121	115	3	He	0.034	ug/l	151.69
Sb	123	115	1	No Gas	0.038	ug/l	316.37
Sb	123	115	3	He	0.041	ug/l	127.35
Ba	135	115	1	No Gas	4.064	ug/l	5936.17
Ba	137	115	1	No Gas	3.781	ug/l	9477.80
La	139	115	3	He	36.349	ug/l	26.67
Ce	140	115	3	He	0.017	ug/l	38.89
Hg	201	209	1	No Gas	0.010	ug/l	10.67
Hg	202	209	1	No Gas	0.059	ug/l	34.66
Hg	202	209	3	He	0.052	ug/l	12.33
Tl	203	209	3	He	0.004	ug/l	85.37
Tl	205	209	1	No Gas	-0.005	ug/l	253.34
Tl	205	209	3	He	0.003	ug/l	181.41
[Pb]	206	209	1	No Gas	-0.004	ug/l	106.67
[Pb]	207	209	1	No Gas	-0.003	ug/l	81.11
Pb	208	209	1	No Gas	-0.002	ug/l	386.67
Th	232	209	3	He	0.001	ug/l	45.35
U	238	209	1	No Gas	0.017	ug/l	174.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2638401.78	98.1
Sc	45	2	H2	1514758.60	95.0
Sc	45	3	He	214065.92	94.7
Ge	72	1	No Gas	611909.35	93.8
Ge	72	2	H2	538282.87	96.8
Ge	72	3	He	121902.25	97.1
In	115	1	No Gas	2912897.78	94.7
In	115	3	He	890873.99	93.0
Tb	159	1	No Gas	2640472.02	99.1
Tb	159	3	He	1447587.31	95.9
Ho	165	1	No Gas	2398740.63	99.6
Ho	165	3	He	1322992.56	95.2
Lu	175	1	No Gas	2275298.01	101.5
Lu	175	3	He	1053978.25	96.8
Bi	209	1	No Gas	1395916.20	97.7
Bi	209	3	He	835096.19	96.2

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	038_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:50:09
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	677.733	ug/l	2823078.27
Be	9	45	1	No Gas	54.554	ug/l	107884.65
B	11	45	1	No Gas	61.835	ug/l	83469.05
Na	23	45	3	He	13388.447	ug/l	7487447.18
Mg	24	45	3	He	13172.538	ug/l	4024754.68
Al	27	45	1	No Gas	50.835	ug/l	511936.83
Si	28	45	2	H2	198.483	ug/l	279785.20
K	39	72	3	He	11762.616	ug/l	4785267.71
Ca	40	72	2	H2	11491.859	ug/l	58145814.60
Ti	47	72	1	No Gas	50.476	ug/l	58624.60
V	51	72	1	No Gas	55.489	ug/l	737066.34
V	51	72	3	He	55.663	ug/l	181738.62
Cr	52	72	1	No Gas	53.889	ug/l	759593.89
Cr	52	72	3	He	55.083	ug/l	167966.64
Mn	55	72	1	No Gas	53.713	ug/l	851313.31
Mn	55	72	3	He	52.765	ug/l	106710.15
Fe	56	72	2	H2	1271.589	ug/l	12688018.61
Fe	56	72	3	He	1357.630	ug/l	3553134.86
Co	59	72	1	No Gas	51.600	ug/l	708649.01
Ni	60	72	1	No Gas	51.115	ug/l	160489.11
Ni	60	72	3	He	57.276	ug/l	61246.39
Cu	63	72	1	No Gas	52.825	ug/l	391435.54
Cu	63	72	3	He	59.480	ug/l	160222.75
Cu	65	72	1	No Gas	53.089	ug/l	182489.08
Zn	66	72	1	No Gas	53.720	ug/l	132706.87
Zn	66	72	3	He	57.134	ug/l	37260.88
As	75	72	1	No Gas	56.664	ug/l	203473.55
As	75	72	3	He	54.336	ug/l	41622.47
Se	78	72	2	H2	53.142	ug/l	22756.97
Br	79	72	1	No Gas	0.392	ug/l	22159.70
Br	79	72	2	H2	0.252	ug/l	15171.20
Se	82	72	1	No Gas	53.969	ug/l	10039.40
Kr	84	72	1	No Gas		ug/l	23039.45
Sr	88	72	1	No Gas	52.816	ug/l	880698.30
Sr	88	72	3	He	51.785	ug/l	142983.01
Mo	95	115	1	No Gas	49.796	ug/l	158949.41
Mo	95	115	3	He	53.520	ug/l	73490.10
Mo	98	115	1	No Gas	49.626	ug/l	249312.28
Ag	107	115	1	No Gas	19.999	ug/l	155574.23
Ag	109	115	1	No Gas	20.472	ug/l	148671.83
Cd	111	115	1	No Gas	52.447	ug/l	82629.05

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	55.429	ug/l	36989.91
Cd	114	115	1	No Gas	52.081	ug/l	180269.09
Cd	114	115	3	He	56.308	ug/l	88279.75
Sn	118	115	1	No Gas	51.622	ug/l	217965.32
Sn	118	115	3	He	53.899	ug/l	82215.28
Sb	121	115	1	No Gas	51.341	ug/l	370860.90
Sb	121	115	3	He	53.992	ug/l	136880.45
Sb	123	115	1	No Gas	51.693	ug/l	278660.75
Sb	123	115	3	He	54.114	ug/l	106404.22
Ba	135	115	1	No Gas	51.446	ug/l	63592.65
Ba	137	115	1	No Gas	52.850	ug/l	111842.93
La	139	115	3	He	31.817	ug/l	22.22
Ce	140	115	3	He	267.171	ug/l	436497.88
Hg	201	209	1	No Gas	4.960	ug/l	517.57
Hg	202	209	1	No Gas	5.077	ug/l	1169.16
Hg	202	209	3	He	5.354	ug/l	821.86
Tl	203	209	3	He	51.505	ug/l	104121.88
Tl	205	209	1	No Gas	49.447	ug/l	338739.59
Tl	205	209	3	He	51.219	ug/l	247298.26
[Pb]	206	209	1	No Gas	51.724	ug/l	119710.70
[Pb]	207	209	1	No Gas	52.559	ug/l	102041.17
Pb	208	209	1	No Gas	52.188	ug/l	474645.00
Th	232	209	3	He	50.187	ug/l	294081.65
U	238	209	1	No Gas	48.739	ug/l	378298.70

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2172258.09	80.7
Sc	45	2	H2	1296933.17	81.3
Sc	45	3	He	181541.10	80.3
Ge	72	1	No Gas	547117.28	83.9
Ge	72	2	H2	485860.81	87.4
Ge	72	3	He	104601.09	83.3
In	115	1	No Gas	2470376.63	80.3
In	115	3	He	802992.59	83.8
Tb	159	1	No Gas	2257519.29	84.7
Tb	159	3	He	1361724.96	90.2
Ho	165	1	No Gas	2040818.14	84.8
Ho	165	3	He	1262870.93	90.8
Lu	175	1	No Gas	1916481.57	85.5
Lu	175	3	He	973563.75	89.4
Bi	209	1	No Gas	1183717.94	82.8
Bi	209	3	He	814302.89	93.8

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	039_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 15:56:24
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	0.640	ug/l	12733.10
Be	9	45	1	No Gas	-0.082	ug/l	49.99
B	11	45	1	No Gas	5.563	ug/l	9666.30
Na	23	45	3	He	34.037	ug/l	64270.80
Mg	24	45	3	He	-0.158	ug/l	1177.72
Al	27	45	1	No Gas	-0.198	ug/l	6236.94
Si	28	45	2	H2	-9.598	ug/l	13493.51
K	39	72	3	He	-2.234	ug/l	133554.16
Ca	40	72	2	H2	-1.910	ug/l	192033.27
Ti	47	72	1	No Gas	-0.194	ug/l	347.02
V	51	72	1	No Gas	2.429	ug/l	-15409.91
V	51	72	3	He	2.185	ug/l	32292.05
Cr	52	72	1	No Gas	2.056	ug/l	111960.03
Cr	52	72	3	He	0.067	ug/l	4390.68
Mn	55	72	1	No Gas	0.535	ug/l	17569.05
Mn	55	72	3	He	0.003	ug/l	297.94
Fe	56	72	2	H2	0.348	ug/l	21834.83
Fe	56	72	3	He	0.719	ug/l	18077.59
Co	59	72	1	No Gas	-0.001	ug/l	632.10
Ni	60	72	1	No Gas	-0.006	ug/l	701.97
Ni	60	72	3	He	0.014	ug/l	265.56
Cu	63	72	1	No Gas	-0.021	ug/l	1494.01
Cu	63	72	3	He	-0.014	ug/l	463.58
Cu	65	72	1	No Gas	-0.031	ug/l	474.20
Zn	66	72	1	No Gas	-0.082	ug/l	467.29
Zn	66	72	3	He	0.007	ug/l	162.23
As	75	72	1	No Gas	1.178	ug/l	20914.11
As	75	72	3	He	0.164	ug/l	1104.35
Se	78	72	2	H2	0.036	ug/l	55.44
Br	79	72	1	No Gas	0.299	ug/l	23006.09
Br	79	72	2	H2	0.122	ug/l	14741.66
Se	82	72	1	No Gas	0.231	ug/l	690.08
Kr	84	72	1	No Gas		ug/l	17432.70
Sr	88	72	1	No Gas	0.004	ug/l	279.45
Sr	88	72	3	He	0.008	ug/l	125.56
Mo	95	115	1	No Gas	0.033	ug/l	131.11
Mo	95	115	3	He	0.022	ug/l	38.89
Mo	98	115	1	No Gas	0.022	ug/l	150.28
Ag	107	115	1	No Gas	0.001	ug/l	586.92
Ag	109	115	1	No Gas	0.005	ug/l	558.90
Cd	111	115	1	No Gas	0.006	ug/l	20.03

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	-0.001	ug/l	6.89
Cd	114	115	1	No Gas	0.001	ug/l	-32.48
Cd	114	115	3	He	0.002	ug/l	15.17
Sn	118	115	1	No Gas	0.073	ug/l	1220.97
Sn	118	115	3	He	0.075	ug/l	430.01
Sb	121	115	1	No Gas	0.103	ug/l	910.12
Sb	121	115	3	He	0.106	ug/l	333.71
Sb	123	115	1	No Gas	0.107	ug/l	700.42
Sb	123	115	3	He	0.106	ug/l	255.36
Ba	135	115	1	No Gas	0.011	ug/l	29.94
Ba	137	115	1	No Gas	-0.005	ug/l	33.27
La	139	115	3	He	-2.107	ug/l	8.89
Ce	140	115	3	He	0.001	ug/l	7.78
Hg	201	209	1	No Gas	0.029	ug/l	12.00
Hg	202	209	1	No Gas	0.028	ug/l	24.66
Hg	202	209	3	He	0.040	ug/l	11.00
Tl	203	209	3	He	0.198	ug/l	514.22
Tl	205	209	1	No Gas	0.164	ug/l	1512.32
Tl	205	209	3	He	0.183	ug/l	1132.51
[Pb]	206	209	1	No Gas	-0.003	ug/l	102.22
[Pb]	207	209	1	No Gas	-0.004	ug/l	74.45
Pb	208	209	1	No Gas	-0.004	ug/l	341.12
Th	232	209	3	He	0.022	ug/l	180.07
U	238	209	1	No Gas	0.002	ug/l	38.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2312471.91	86.0
Sc	45	2	H2	1308642.90	82.1
Sc	45	3	He	180616.33	79.9
Ge	72	1	No Gas	581842.71	89.2
Ge	72	2	H2	489936.06	88.1
Ge	72	3	He	105766.82	84.3
In	115	1	No Gas	2700245.58	87.8
In	115	3	He	843914.29	88.1
Tb	159	1	No Gas	2450767.19	91.9
Tb	159	3	He	1453078.16	96.2
Ho	165	1	No Gas	2187419.89	90.9
Ho	165	3	He	1328187.61	95.5
Lu	175	1	No Gas	2089183.56	93.2
Lu	175	3	He	1041787.53	95.7
Bi	209	1	No Gas	1301414.09	91.1
Bi	209	3	He	881938.89	101.6

ICPMS207-B Analytical Data

Sample Name	B22010406-001A
File Name	040SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:02:37
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	-0.572	ug/l	8902.18
Be	9	45	1	No Gas	-0.089	ug/l	41.66
B	11	45	1	No Gas	43.201	ug/l	75565.91
Na	23	45	3	He	33660.587	ug/l	22473716.33
Mg	24	45	3	He	15360.169	ug/l	5625329.59
Al	27	45	1	No Gas	2.057	ug/l	36244.81
Si	28	45	2	H2	24577.437	ug/l	38459391.54
K	39	72	3	He	1724.801	ug/l	989057.63
Ca	40	72	2	H2	13213.435	ug/l	78833775.17
Ti	47	72	1	No Gas	1.163	ug/l	2262.46
V	51	72	1	No Gas	21.456	ug/l	305660.81
V	51	72	3	He	12.379	ug/l	73393.01
Cr	52	72	1	No Gas	-0.195	ug/l	92220.32
Cr	52	72	3	He	2.129	ug/l	12705.53
Mn	55	72	1	No Gas	2.326	ug/l	53524.33
Mn	55	72	3	He	1.986	ug/l	5209.22
Fe	56	72	2	H2	3.452	ug/l	62030.77
Fe	56	72	3	He	3.068	ug/l	29117.96
Co	59	72	1	No Gas	0.012	ug/l	918.21
Ni	60	72	1	No Gas	0.196	ug/l	1547.02
Ni	60	72	3	He	0.230	ug/l	597.80
Cu	63	72	1	No Gas	0.367	ug/l	5118.96
Cu	63	72	3	He	0.250	ug/l	1416.79
Cu	65	72	1	No Gas	0.315	ug/l	1953.72
Zn	66	72	1	No Gas	8.671	ug/l	26323.17
Zn	66	72	3	He	8.768	ug/l	7098.43
As	75	72	1	No Gas	-2.225	ug/l	9977.24
As	75	72	3	He	-0.884	ug/l	374.07
Se	78	72	2	H2	0.143	ug/l	118.78
Br	79	72	1	No Gas	15.142	ug/l	126975.52
Br	79	72	2	H2	15.214	ug/l	93070.09
Se	82	72	1	No Gas	0.768	ug/l	890.63
Kr	84	72	1	No Gas		ug/l	31595.31
Sr	88	72	1	No Gas	94.273	ug/l	1885321.56
Sr	88	72	3	He	86.164	ug/l	288626.04
Mo	95	115	1	No Gas	0.123	ug/l	536.68
Mo	95	115	3	He	0.144	ug/l	247.78
Mo	98	115	1	No Gas	0.124	ug/l	853.02
Ag	107	115	1	No Gas	-0.063	ug/l	56.69
Ag	109	115	1	No Gas	-0.061	ug/l	38.01
Cd	111	115	1	No Gas	0.013	ug/l	38.86

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.016	ug/l	21.55
Cd	114	115	1	No Gas	0.026	ug/l	76.66
Cd	114	115	3	He	0.020	ug/l	51.59
Sn	118	115	1	No Gas	-0.025	ug/l	934.85
Sn	118	115	3	He	-0.045	ug/l	274.45
Sb	121	115	1	No Gas	1.048	ug/l	10096.97
Sb	121	115	3	He	1.141	ug/l	3554.81
Sb	123	115	1	No Gas	1.046	ug/l	7521.43
Sb	123	115	3	He	1.095	ug/l	2641.52
Ba	135	115	1	No Gas	3.695	ug/l	6036.04
Ba	137	115	1	No Gas	3.501	ug/l	9817.37
La	139	115	3	He	24.520	ug/l	23.34
Ce	140	115	3	He	0.017	ug/l	41.11
Hg	201	209	1	No Gas	0.008	ug/l	11.67
Hg	202	209	1	No Gas	-0.006	ug/l	19.33
Hg	202	209	3	He	0.038	ug/l	11.67
Tl	203	209	3	He	0.108	ug/l	344.14
Tl	205	209	1	No Gas	0.073	ug/l	984.49
Tl	205	209	3	He	0.107	ug/l	801.01
[Pb]	206	209	1	No Gas	0.010	ug/l	163.34
[Pb]	207	209	1	No Gas	0.012	ug/l	130.00
Pb	208	209	1	No Gas	0.013	ug/l	615.57
Th	232	209	3	He	0.006	ug/l	86.70
U	238	209	1	No Gas	0.010	ug/l	133.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2790792.81	103.7
Sc	45	2	H2	1584025.16	99.3
Sc	45	3	He	217516.36	96.2
Ge	72	1	No Gas	656292.51	100.6
Ge	72	2	H2	573178.68	103.1
Ge	72	3	He	126918.73	101.1
In	115	1	No Gas	3259422.40	106.0
In	115	3	He	970463.32	101.3
Tb	159	1	No Gas	2970094.63	111.4
Tb	159	3	He	1650572.22	109.3
Ho	165	1	No Gas	2724565.80	113.2
Ho	165	3	He	1499812.74	107.9
Lu	175	1	No Gas	2594065.20	115.7
Lu	175	3	He	1195024.55	109.7
Bi	209	1	No Gas	1563907.78	109.4
Bi	209	3	He	956518.66	110.2

ICPMS207-B Analytical Data

Sample Name	B22010409-001A
File Name	041SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:08:52
Sample Type	Sample
Total Dilution	1.0000
Comment	ICPMS-6020-W-D
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.325	ug/l	19031.52
Be	9	45	1	No Gas	-0.093	ug/l	32.66
B	11	45	1	No Gas	41.312	ug/l	72440.12
Na	23	45	3	He	44692.871	ug/l	29817909.28
Mg	24	45	3	He	9457.324	ug/l	3463167.53
Al	27	45	1	No Gas	4.996	ug/l	73750.90
Si	28	45	2	H2	17931.018	ug/l	27800759.66
K	39	72	3	He	2953.436	ug/l	1542624.80
Ca	40	72	2	H2	12580.384	ug/l	72920704.80
Ti	47	72	1	No Gas	0.819	ug/l	1780.24
V	51	72	1	No Gas	13.732	ug/l	173326.66
V	51	72	3	He	2.605	ug/l	39256.65
Cr	52	72	1	No Gas	-1.094	ug/l	78144.20
Cr	52	72	3	He	1.658	ug/l	10756.20
Mn	55	72	1	No Gas	3.473	ug/l	74704.24
Mn	55	72	3	He	3.244	ug/l	8099.94
Fe	56	72	2	H2	6.266	ug/l	92372.51
Fe	56	72	3	He	5.949	ug/l	37344.72
Co	59	72	1	No Gas	0.003	ug/l	775.15
Ni	60	72	1	No Gas	0.294	ug/l	1906.35
Ni	60	72	3	He	0.367	ug/l	756.69
Cu	63	72	1	No Gas	0.609	ug/l	7224.69
Cu	63	72	3	He	0.471	ug/l	2087.07
Cu	65	72	1	No Gas	0.508	ug/l	2732.69
Zn	66	72	1	No Gas	0.709	ug/l	2840.51
Zn	66	72	3	He	0.841	ug/l	831.14
As	75	72	1	No Gas	-0.830	ug/l	15452.05
As	75	72	3	He	0.409	ug/l	1512.65
Se	78	72	2	H2	0.054	ug/l	71.89
Br	79	72	1	No Gas	15.048	ug/l	125583.12
Br	79	72	2	H2	15.533	ug/l	91951.90
Se	82	72	1	No Gas	0.564	ug/l	840.89
Kr	84	72	1	No Gas		ug/l	35163.20
Sr	88	72	1	No Gas	128.384	ug/l	2552071.00
Sr	88	72	3	He	117.539	ug/l	384621.07
Mo	95	115	1	No Gas	4.413	ug/l	18292.89
Mo	95	115	3	He	4.617	ug/l	7543.16
Mo	98	115	1	No Gas	4.353	ug/l	28389.58
Ag	107	115	1	No Gas	-0.063	ug/l	53.35
Ag	109	115	1	No Gas	-0.061	ug/l	40.02
Cd	111	115	1	No Gas	0.018	ug/l	48.56

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.018	ug/l	22.89
Cd	114	115	1	No Gas	0.032	ug/l	102.85
Cd	114	115	3	He	0.022	ug/l	56.21
Sn	118	115	1	No Gas	-0.034	ug/l	864.98
Sn	118	115	3	He	-0.030	ug/l	296.67
Sb	121	115	1	No Gas	0.473	ug/l	4542.53
Sb	121	115	3	He	0.498	ug/l	1558.58
Sb	123	115	1	No Gas	0.465	ug/l	3334.74
Sb	123	115	3	He	0.498	ug/l	1204.17
Ba	135	115	1	No Gas	21.655	ug/l	34711.11
Ba	137	115	1	No Gas	21.998	ug/l	60404.35
La	139	115	3	He	4.574	ug/l	13.33
Ce	140	115	3	He	0.015	ug/l	36.67
Hg	201	209	1	No Gas	0.054	ug/l	17.66
Hg	202	209	1	No Gas	1.089	ug/l	343.94
Hg	202	209	3	He	0.959	ug/l	168.97
Tl	203	209	3	He	0.053	ug/l	204.75
Tl	205	209	1	No Gas	0.023	ug/l	524.46
Tl	205	209	3	He	0.045	ug/l	427.51
[Pb]	206	209	1	No Gas	0.017	ug/l	182.23
[Pb]	207	209	1	No Gas	0.010	ug/l	123.34
Pb	208	209	1	No Gas	0.015	ug/l	631.13
Th	232	209	3	He	0.000	ug/l	42.68
U	238	209	1	No Gas	0.277	ug/l	2836.41

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2794162.37	103.9
Sc	45	2	H2	1568842.26	98.4
Sc	45	3	He	217468.69	96.2
Ge	72	1	No Gas	652403.32	100.0
Ge	72	2	H2	556730.98	100.1
Ge	72	3	He	124012.91	98.8
In	115	1	No Gas	3204667.04	104.2
In	115	3	He	954604.12	99.7
Tb	159	1	No Gas	2949661.54	110.7
Tb	159	3	He	1571681.97	104.1
Ho	165	1	No Gas	2666161.46	110.8
Ho	165	3	He	1438225.00	103.4
Lu	175	1	No Gas	2550955.76	113.8
Lu	175	3	He	1160674.84	106.6
Bi	209	1	No Gas	1545648.95	108.2
Bi	209	3	He	914574.71	105.4

ICPMS207-B Analytical Data

Sample Name	B22010410-001A
File Name	042SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:15:05
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	-0.463	ug/l	9183.12
Be	9	45	1	No Gas	-0.093	ug/l	31.32
B	11	45	1	No Gas	30.998	ug/l	53134.50
Na	23	45	3	He	38296.714	ug/l	24579465.47
Mg	24	45	3	He	15999.530	ug/l	5633758.56
Al	27	45	1	No Gas	3.273	ug/l	50116.87
Si	28	45	2	H2	18745.972	ug/l	28091641.01
K	39	72	3	He	2358.464	ug/l	1245547.13
Ca	40	72	2	H2	16702.956	ug/l	94181908.59
Ti	47	72	1	No Gas	0.816	ug/l	1668.45
V	51	72	1	No Gas	13.137	ug/l	153557.63
V	51	72	3	He	2.754	ug/l	39183.16
Cr	52	72	1	No Gas	-1.189	ug/l	72118.94
Cr	52	72	3	He	1.551	ug/l	10231.39
Mn	55	72	1	No Gas	0.269	ug/l	13845.75
Mn	55	72	3	He	0.067	ug/l	495.24
Fe	56	72	2	H2	0.326	ug/l	23906.76
Fe	56	72	3	He	-0.004	ug/l	18692.31
Co	59	72	1	No Gas	0.002	ug/l	701.96
Ni	60	72	1	No Gas	0.204	ug/l	1473.83
Ni	60	72	3	He	0.215	ug/l	556.68
Cu	63	72	1	No Gas	0.426	ug/l	5272.41
Cu	63	72	3	He	0.260	ug/l	1395.12
Cu	65	72	1	No Gas	0.325	ug/l	1864.20
Zn	66	72	1	No Gas	4.501	ug/l	13120.91
Zn	66	72	3	He	4.395	ug/l	3518.22
As	75	72	1	No Gas	-0.916	ug/l	14213.35
As	75	72	3	He	-0.487	ug/l	707.73
Se	78	72	2	H2	0.031	ug/l	58.67
Br	79	72	1	No Gas	23.711	ug/l	173157.37
Br	79	72	2	H2	23.385	ug/l	126834.14
Se	82	72	1	No Gas	0.939	ug/l	865.68
Kr	84	72	1	No Gas		ug/l	32732.32
Sr	88	72	1	No Gas	126.189	ug/l	2358274.03
Sr	88	72	3	He	114.432	ug/l	369169.38
Mo	95	115	1	No Gas	0.796	ug/l	3198.21
Mo	95	115	3	He	0.920	ug/l	1465.64
Mo	98	115	1	No Gas	0.788	ug/l	4981.81
Ag	107	115	1	No Gas	-0.058	ug/l	99.37
Ag	109	115	1	No Gas	-0.053	ug/l	109.38
Cd	111	115	1	No Gas	0.016	ug/l	42.94

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.010	ug/l	15.89
Cd	114	115	1	No Gas	0.025	ug/l	67.70
Cd	114	115	3	He	0.012	ug/l	34.75
Sn	118	115	1	No Gas	-0.097	ug/l	505.68
Sn	118	115	3	He	-0.116	ug/l	136.67
Sb	121	115	1	No Gas	0.022	ug/l	310.37
Sb	121	115	3	He	0.017	ug/l	106.68
Sb	123	115	1	No Gas	0.020	ug/l	219.36
Sb	123	115	3	He	0.022	ug/l	89.34
Ba	135	115	1	No Gas	5.828	ug/l	9011.76
Ba	137	115	1	No Gas	5.797	ug/l	15374.86
La	139	115	3	He	3.169	ug/l	12.22
Ce	140	115	3	He	0.010	ug/l	26.67
Hg	201	209	1	No Gas	0.001	ug/l	10.00
Hg	202	209	1	No Gas	0.016	ug/l	24.33
Hg	202	209	3	He	0.028	ug/l	9.33
Tl	203	209	3	He	0.034	ug/l	160.73
Tl	205	209	1	No Gas	0.025	ug/l	522.24
Tl	205	209	3	He	0.041	ug/l	406.17
[Pb]	206	209	1	No Gas	0.000	ug/l	124.44
[Pb]	207	209	1	No Gas	0.008	ug/l	112.22
Pb	208	209	1	No Gas	0.003	ug/l	464.44
Th	232	209	3	He	0.001	ug/l	48.68
U	238	209	1	No Gas	0.034	ug/l	347.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2703430.50	100.5
Sc	45	2	H2	1516374.10	95.1
Sc	45	3	He	209139.32	92.5
Ge	72	1	No Gas	613214.56	94.0
Ge	72	2	H2	542118.38	97.5
Ge	72	3	He	122236.49	97.4
In	115	1	No Gas	3087634.65	100.4
In	115	3	He	926144.47	96.7
Tb	159	1	No Gas	2797516.09	105.0
Tb	159	3	He	1554233.71	102.9
Ho	165	1	No Gas	2507730.43	104.2
Ho	165	3	He	1433657.51	103.1
Lu	175	1	No Gas	2418915.81	107.9
Lu	175	3	He	1140734.00	104.8
Bi	209	1	No Gas	1463351.17	102.4
Bi	209	3	He	910307.07	104.9

ICPMS207-B Analytical Data

Sample Name	B22010411-001A
File Name	043SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:21:19
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	-0.994	ug/l	6366.56
Be	9	45	1	No Gas	-0.092	ug/l	32.32
B	11	45	1	No Gas	73.102	ug/l	120941.13
Na	23	45	3	He	45321.933	ug/l	29047775.68
Mg	24	45	3	He	13528.184	ug/l	4758284.02
Al	27	45	1	No Gas	1.497	ug/l	27848.14
Si	28	45	2	H2	7806.168	ug/l	11566339.94
K	39	72	3	He	3700.857	ug/l	1856095.81
Ca	40	72	2	H2	12693.509	ug/l	71915713.18
Ti	47	72	1	No Gas	0.245	ug/l	966.01
V	51	72	1	No Gas	3.754	ug/l	4677.07
V	51	72	3	He	-6.588	ug/l	8548.07
Cr	52	72	1	No Gas	-2.365	ug/l	57430.73
Cr	52	72	3	He	-0.136	ug/l	4344.00
Mn	55	72	1	No Gas	48.738	ug/l	897147.23
Mn	55	72	3	He	47.827	ug/l	112463.35
Fe	56	72	2	H2	36.144	ug/l	423724.12
Fe	56	72	3	He	36.652	ug/l	129618.90
Co	59	72	1	No Gas	0.016	ug/l	954.81
Ni	60	72	1	No Gas	0.341	ug/l	2026.14
Ni	60	72	3	He	0.439	ug/l	831.14
Cu	63	72	1	No Gas	0.633	ug/l	7230.04
Cu	63	72	3	He	0.508	ug/l	2160.06
Cu	65	72	1	No Gas	0.520	ug/l	2708.68
Zn	66	72	1	No Gas	2.319	ug/l	7362.69
Zn	66	72	3	He	2.592	ug/l	2137.95
As	75	72	1	No Gas	-1.708	ug/l	11645.95
As	75	72	3	He	-0.802	ug/l	429.80
Se	78	72	2	H2	0.037	ug/l	62.00
Br	79	72	1	No Gas	14.199	ug/l	116648.89
Br	79	72	2	H2	14.859	ug/l	86659.52
Se	82	72	1	No Gas	0.059	ug/l	717.55
Kr	84	72	1	No Gas		ug/l	26931.87
Sr	88	72	1	No Gas	86.332	ug/l	1670598.05
Sr	88	72	3	He	81.081	ug/l	260211.67
Mo	95	115	1	No Gas	13.948	ug/l	56192.56
Mo	95	115	3	He	16.399	ug/l	25771.11
Mo	98	115	1	No Gas	14.246	ug/l	90331.46
Ag	107	115	1	No Gas	-0.064	ug/l	45.35
Ag	109	115	1	No Gas	-0.062	ug/l	34.01
Cd	111	115	1	No Gas	0.045	ug/l	99.54

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.043	ug/l	41.00
Cd	114	115	1	No Gas	0.054	ug/l	193.23
Cd	114	115	3	He	0.044	ug/l	91.94
Sn	118	115	1	No Gas	-0.091	ug/l	538.94
Sn	118	115	3	He	-0.082	ug/l	195.56
Sb	121	115	1	No Gas	0.045	ug/l	516.06
Sb	121	115	3	He	0.049	ug/l	199.02
Sb	123	115	1	No Gas	0.046	ug/l	399.05
Sb	123	115	3	He	0.053	ug/l	157.69
Ba	135	115	1	No Gas	2.154	ug/l	3377.06
Ba	137	115	1	No Gas	2.022	ug/l	5446.94
La	139	115	3	He	8.116	ug/l	14.44
Ce	140	115	3	He	0.016	ug/l	37.78
Hg	201	209	1	No Gas	0.001	ug/l	9.67
Hg	202	209	1	No Gas	0.066	ug/l	37.32
Hg	202	209	3	He	0.096	ug/l	20.67
Tl	203	209	3	He	0.029	ug/l	146.06
Tl	205	209	1	No Gas	0.009	ug/l	375.56
Tl	205	209	3	He	0.024	ug/l	307.46
[Pb]	206	209	1	No Gas	0.046	ug/l	247.78
[Pb]	207	209	1	No Gas	0.052	ug/l	212.23
Pb	208	209	1	No Gas	0.053	ug/l	993.36
Th	232	209	3	He	0.003	ug/l	61.36
U	238	209	1	No Gas	0.005	ug/l	69.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2671308.91	99.3
Sc	45	2	H2	1497031.65	93.9
Sc	45	3	He	208928.66	92.4
Ge	72	1	No Gas	634933.05	97.3
Ge	72	2	H2	544163.02	97.8
Ge	72	3	He	121588.26	96.9
In	115	1	No Gas	3116932.50	101.3
In	115	3	He	918816.16	95.9
Tb	159	1	No Gas	2829615.14	106.2
Tb	159	3	He	1525022.60	101.0
Ho	165	1	No Gas	2534146.84	105.3
Ho	165	3	He	1433336.45	103.1
Lu	175	1	No Gas	2328219.26	103.9
Lu	175	3	He	1151384.39	105.7
Bi	209	1	No Gas	1424448.82	99.7
Bi	209	3	He	900232.14	103.7

ICPMS207-B Analytical Data

Sample Name	B22010411-001ADIL
File Name	044ARef.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:27:34
Sample Type	AllRef
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	-2.427	ug/l	7689.04
Be	9	45	1	No Gas	-0.448	ug/l	32.99
B	11	45	1	No Gas	87.752	ug/l	26301.96
Na	23	45	3	He	45616.598	ug/l	4982270.34
Mg	24	45	3	He	13251.522	ug/l	789625.16
Al	27	45	1	No Gas	11.421	ug/l	32150.07
Si	28	45	2	H2	7571.013	ug/l	1953565.07
K	39	72	3	He	3373.704	ug/l	399525.41
Ca	40	72	2	H2	12053.319	ug/l	12226554.25
Ti	47	72	1	No Gas	-0.667	ug/l	402.08
V	51	72	1	No Gas	3.276	ug/l	-40150.39
V	51	72	3	He	1.456	ug/l	26606.26
Cr	52	72	1	No Gas	4.924	ug/l	93104.77
Cr	52	72	3	He	0.719	ug/l	4565.18
Mn	55	72	1	No Gas	51.053	ug/l	170826.53
Mn	55	72	3	He	46.870	ug/l	19177.95
Fe	56	72	2	H2	40.946	ug/l	98743.86
Fe	56	72	3	He	43.423	ug/l	38599.26
Co	59	72	1	No Gas	-0.010	ug/l	585.52
Ni	60	72	1	No Gas	0.747	ug/l	1161.08
Ni	60	72	3	He	0.859	ug/l	430.01
Cu	63	72	1	No Gas	1.576	ug/l	3944.12
Cu	63	72	3	He	1.546	ug/l	1324.13
Cu	65	72	1	No Gas	1.413	ug/l	1540.70
Zn	66	72	1	No Gas	6.903	ug/l	4094.12
Zn	66	72	3	He	7.500	ug/l	1128.94
As	75	72	1	No Gas	1.409	ug/l	16930.79
As	75	72	3	He	-0.287	ug/l	926.08
Se	78	72	2	H2	0.076	ug/l	45.56
Br	79	72	1	No Gas	16.827	ug/l	39552.58
Br	79	72	2	H2	13.578	ug/l	25395.30
Se	82	72	1	No Gas	-2.315	ug/l	535.14
Kr	84	72	1	No Gas		ug/l	18138.87
Sr	88	72	1	No Gas	83.786	ug/l	283676.37
Sr	88	72	3	He	80.036	ug/l	44234.91
Mo	95	115	1	No Gas	14.260	ug/l	10269.32
Mo	95	115	3	He	16.560	ug/l	4715.25
Mo	98	115	1	No Gas	14.302	ug/l	16213.28
Ag	107	115	1	No Gas	-0.330	ug/l	20.01
Ag	109	115	1	No Gas	-0.314	ug/l	20.01
Cd	111	115	1	No Gas	0.055	ug/l	29.04

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.043	ug/l	13.33
Cd	114	115	1	No Gas	0.108	ug/l	47.21
Cd	114	115	3	He	0.051	ug/l	28.95
Sn	118	115	1	No Gas	0.233	ug/l	1134.47
Sn	118	115	3	He	0.343	ug/l	413.34
Sb	121	115	1	No Gas	0.137	ug/l	320.37
Sb	121	115	3	He	0.122	ug/l	116.01
Sb	123	115	1	No Gas	0.139	ug/l	242.36
Sb	123	115	3	He	0.157	ug/l	99.68
Ba	135	115	1	No Gas	4.118	ug/l	1161.09
Ba	137	115	1	No Gas	4.187	ug/l	2039.45
La	139	115	3	He	176.311	ug/l	24.45
Ce	140	115	3	He	0.111	ug/l	44.44
Hg	201	209	1	No Gas	0.015	ug/l	9.00
Hg	202	209	1	No Gas	0.086	ug/l	22.00
Hg	202	209	3	He	0.072	ug/l	6.67
Tl	203	209	3	He	0.030	ug/l	92.04
Tl	205	209	1	No Gas	-0.013	ug/l	252.22
Tl	205	209	3	He	0.044	ug/l	219.42
[Pb]	206	209	1	No Gas	0.113	ug/l	166.67
[Pb]	207	209	1	No Gas	0.180	ug/l	158.89
Pb	208	209	1	No Gas	0.171	ug/l	722.23
Th	232	209	3	He	0.004	ug/l	48.02
U	238	209	1	No Gas	0.005	ug/l	30.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2292037.08	85.2
Sc	45	2	H2	1289845.30	80.9
Sc	45	3	He	176740.09	78.2
Ge	72	1	No Gas	555134.94	85.1
Ge	72	2	H2	480905.59	86.5
Ge	72	3	He	104504.70	83.2
In	115	1	No Gas	2782155.52	90.5
In	115	3	He	831186.14	86.8
Tb	159	1	No Gas	2482692.13	93.1
Tb	159	3	He	1434619.12	95.0
Ho	165	1	No Gas	2229186.90	92.6
Ho	165	3	He	1320625.58	95.0
Lu	175	1	No Gas	2083673.89	93.0
Lu	175	3	He	1015785.80	93.3
Bi	209	1	No Gas	1301171.96	91.1
Bi	209	3	He	867490.80	99.9

ICPMS207-B Analytical Data

Sample Name	B22010411-001AMS
File Name	045MS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:33:49
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	2530.925	ug/l	11399068.28
Be	9	45	1	No Gas	48.970	ug/l	104974.78
B	11	45	1	No Gas	127.797	ug/l	185006.36
Na	23	45	3	He	93662.075	ug/l	56486915.27
Mg	24	45	3	He	63613.830	ug/l	21068209.13
Al	27	45	1	No Gas	47.942	ug/l	523874.79
Si	28	45	2	H2	7985.830	ug/l	10586825.99
K	39	72	3	He	49408.697	ug/l	21137146.91
Ca	40	72	2	H2	57362.906	ug/l	301108524.58
Ti	47	72	1	No Gas	50.212	ug/l	62862.93
V	51	72	1	No Gas	50.898	ug/l	722625.32
V	51	72	3	He	50.414	ug/l	180270.41
Cr	52	72	1	No Gas	48.119	ug/l	742734.34
Cr	52	72	3	He	50.555	ug/l	166092.37
Mn	55	72	1	No Gas	95.713	ug/l	1628121.38
Mn	55	72	3	He	96.679	ug/l	209753.38
Fe	56	72	2	H2	4954.426	ug/l	51362604.55
Fe	56	72	3	He	5201.942	ug/l	14575666.51
Co	59	72	1	No Gas	46.488	ug/l	688209.75
Ni	60	72	1	No Gas	46.544	ug/l	157611.40
Ni	60	72	3	He	52.175	ug/l	59959.23
Cu	63	72	1	No Gas	48.186	ug/l	385051.18
Cu	63	72	3	He	54.291	ug/l	157145.86
Cu	65	72	1	No Gas	47.874	ug/l	177459.87
Zn	66	72	1	No Gas	49.165	ug/l	130992.12
Zn	66	72	3	He	53.032	ug/l	37167.29
As	75	72	1	No Gas	49.712	ug/l	195002.19
As	75	72	3	He	50.588	ug/l	41727.90
Se	78	72	2	H2	49.057	ug/l	21850.26
Br	79	72	1	No Gas	15.607	ug/l	117572.23
Br	79	72	2	H2	16.547	ug/l	88444.08
Se	82	72	1	No Gas	48.876	ug/l	9880.03
Kr	84	72	1	No Gas		ug/l	33822.89
Sr	88	72	1	No Gas	133.124	ug/l	2392114.64
Sr	88	72	3	He	131.321	ug/l	389343.30
Mo	95	115	1	No Gas	60.619	ug/l	212200.98
Mo	95	115	3	He	67.602	ug/l	98225.95
Mo	98	115	1	No Gas	60.745	ug/l	334669.71
Ag	107	115	1	No Gas	19.175	ug/l	163638.38
Ag	109	115	1	No Gas	18.871	ug/l	150316.46
Cd	111	115	1	No Gas	48.077	ug/l	83076.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.036	ug/l	36037.70
Cd	114	115	1	No Gas	47.865	ug/l	181690.49
Cd	114	115	3	He	52.371	ug/l	86880.67
Sn	118	115	1	No Gas	46.952	ug/l	217540.47
Sn	118	115	3	He	50.345	ug/l	81284.14
Sb	121	115	1	No Gas	39.902	ug/l	316159.99
Sb	121	115	3	He	43.106	ug/l	115633.72
Sb	123	115	1	No Gas	40.600	ug/l	240062.01
Sb	123	115	3	He	43.113	ug/l	89693.14
Ba	135	115	1	No Gas	51.379	ug/l	69618.93
Ba	137	115	1	No Gas	50.468	ug/l	117111.35
La	139	115	3	He	100.450	ug/l	53.33
Ce	140	115	3	He	264.732	ug/l	457584.75
Hg	201	209	1	No Gas	5.012	ug/l	577.23
Hg	202	209	1	No Gas	5.101	ug/l	1295.81
Hg	202	209	3	He	5.440	ug/l	860.86
Tl	203	209	3	He	48.063	ug/l	100159.45
Tl	205	209	1	No Gas	47.301	ug/l	357145.26
Tl	205	209	3	He	47.770	ug/l	237752.59
[Pb]	206	209	1	No Gas	48.386	ug/l	123472.12
[Pb]	207	209	1	No Gas	50.098	ug/l	107241.23
Pb	208	209	1	No Gas	49.701	ug/l	498268.53
Th	232	209	3	He	48.549	ug/l	293258.21
U	238	209	1	No Gas	47.845	ug/l	409442.98

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2424547.87	90.1
Sc	45	2	H2	1381951.11	86.7
Sc	45	3	He	202672.99	89.7
Ge	72	1	No Gas	607274.02	93.1
Ge	72	2	H2	520909.38	93.7
Ge	72	3	He	115714.52	92.2
In	115	1	No Gas	2790436.43	90.7
In	115	3	He	875173.32	91.4
Tb	159	1	No Gas	2559951.06	96.0
Tb	159	3	He	1479931.09	98.0
Ho	165	1	No Gas	2306578.11	95.8
Ho	165	3	He	1408431.57	101.3
Lu	175	1	No Gas	2202023.14	98.2
Lu	175	3	He	1123771.83	103.2
Bi	209	1	No Gas	1343071.12	94.0
Bi	209	3	He	864262.78	99.6

ICPMS207-B Analytical Data

Sample Name	B22010411-001AMSD
File Name	046MSD.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:40:03
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	2489.386	ug/l	12110064.83
Be	9	45	1	No Gas	47.778	ug/l	110632.00
B	11	45	1	No Gas	124.121	ug/l	194132.96
Na	23	45	3	He	92982.614	ug/l	58521607.46
Mg	24	45	3	He	64667.023	ug/l	22351284.88
Al	27	45	1	No Gas	48.240	ug/l	569256.47
Si	28	45	2	H2	7877.650	ug/l	11244324.97
K	39	72	3	He	49994.935	ug/l	22579218.55
Ca	40	72	2	H2	59060.225	ug/l	320425367.41
Ti	47	72	1	No Gas	51.357	ug/l	68669.69
V	51	72	1	No Gas	48.476	ug/l	732112.76
V	51	72	3	He	49.517	ug/l	187491.18
Cr	52	72	1	No Gas	47.780	ug/l	788227.04
Cr	52	72	3	He	49.847	ug/l	172972.51
Mn	55	72	1	No Gas	96.191	ug/l	1748189.24
Mn	55	72	3	He	96.339	ug/l	220701.13
Fe	56	72	2	H2	5045.306	ug/l	54071001.60
Fe	56	72	3	He	5109.425	ug/l	15118267.32
Co	59	72	1	No Gas	47.147	ug/l	745645.25
Ni	60	72	1	No Gas	47.633	ug/l	172280.04
Ni	60	72	3	He	50.695	ug/l	61527.94
Cu	63	72	1	No Gas	48.922	ug/l	417608.62
Cu	63	72	3	He	53.379	ug/l	163151.78
Cu	65	72	1	No Gas	48.792	ug/l	193190.41
Zn	66	72	1	No Gas	50.081	ug/l	142470.15
Zn	66	72	3	He	52.908	ug/l	39151.48
As	75	72	1	No Gas	50.712	ug/l	212101.39
As	75	72	3	He	50.553	ug/l	44030.60
Se	78	72	2	H2	50.543	ug/l	23276.12
Br	79	72	1	No Gas	16.126	ug/l	129008.57
Br	79	72	2	H2	16.964	ug/l	93287.84
Se	82	72	1	No Gas	48.820	ug/l	10543.70
Kr	84	72	1	No Gas		ug/l	35026.61
Sr	88	72	1	No Gas	131.397	ug/l	2521924.21
Sr	88	72	3	He	130.849	ug/l	409627.94
Mo	95	115	1	No Gas	62.577	ug/l	230372.74
Mo	95	115	3	He	67.536	ug/l	101449.90
Mo	98	115	1	No Gas	62.482	ug/l	361999.70
Ag	107	115	1	No Gas	19.468	ug/l	174732.83
Ag	109	115	1	No Gas	19.296	ug/l	161631.53
Cd	111	115	1	No Gas	49.103	ug/l	89222.75

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.829	ug/l	37839.68
Cd	114	115	1	No Gas	48.828	ug/l	194905.93
Cd	114	115	3	He	52.473	ug/l	90001.43
Sn	118	115	1	No Gas	48.035	ug/l	234117.93
Sn	118	115	3	He	51.290	ug/l	85621.15
Sb	121	115	1	No Gas	42.425	ug/l	353512.49
Sb	121	115	3	He	45.147	ug/l	125219.44
Sb	123	115	1	No Gas	42.698	ug/l	265484.18
Sb	123	115	3	He	45.092	ug/l	97005.41
Ba	135	115	1	No Gas	52.375	ug/l	74655.49
Ba	137	115	1	No Gas	51.255	ug/l	125116.14
La	139	115	3	He	679.286	ug/l	312.23
Ce	140	115	3	He	264.469	ug/l	472632.19
Hg	201	209	1	No Gas	5.034	ug/l	604.56
Hg	202	209	1	No Gas	5.369	ug/l	1421.13
Hg	202	209	3	He	5.766	ug/l	898.19
Tl	203	209	3	He	49.873	ug/l	102400.67
Tl	205	209	1	No Gas	49.005	ug/l	385925.13
Tl	205	209	3	He	49.320	ug/l	241798.74
[Pb]	206	209	1	No Gas	49.846	ug/l	132626.63
[Pb]	207	209	1	No Gas	50.842	ug/l	113484.17
Pb	208	209	1	No Gas	50.485	ug/l	527782.13
Th	232	209	3	He	50.344	ug/l	299742.24
U	238	209	1	No Gas	48.814	ug/l	435561.70

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2618641.04	97.3
Sc	45	2	H2	1485366.44	93.1
Sc	45	3	He	211507.86	93.6
Ge	72	1	No Gas	648812.82	99.5
Ge	72	2	H2	538007.90	96.7
Ge	72	3	He	122184.85	97.3
In	115	1	No Gas	2934621.16	95.4
In	115	3	He	904851.11	94.5
Tb	159	1	No Gas	2719018.25	102.0
Tb	159	3	He	1487424.01	98.5
Ho	165	1	No Gas	2424158.55	100.7
Ho	165	3	He	1417961.45	102.0
Lu	175	1	No Gas	2329344.99	103.9
Lu	175	3	He	1139672.72	104.7
Bi	209	1	No Gas	1401070.25	98.1
Bi	209	3	He	852769.09	98.2

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	047BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:46:18
Sample Type	BlkVrfy
Total Dilution	1.0000
Comment	ICPMS-6020-W-D
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2.174	ug/l	21169.16
Be	9	45	1	No Gas	-0.076	ug/l	66.32
B	11	45	1	No Gas	3.136	ug/l	6784.25
Na	23	45	3	He	34.589	ug/l	68954.69
Mg	24	45	3	He	3.877	ug/l	2568.47
Al	27	45	1	No Gas	1.110	ug/l	21750.47
Si	28	45	2	H2	-11.778	ug/l	11158.58
K	39	72	3	He	21.309	ug/l	151391.57
Ca	40	72	2	H2	0.166	ug/l	214172.49
Ti	47	72	1	No Gas	-0.120	ug/l	470.48
V	51	72	1	No Gas	0.704	ug/l	-45137.69
V	51	72	3	He	2.261	ug/l	34418.98
Cr	52	72	1	No Gas	0.931	ug/l	104172.81
Cr	52	72	3	He	-0.001	ug/l	4431.80
Mn	55	72	1	No Gas	0.588	ug/l	19850.69
Mn	55	72	3	He	0.004	ug/l	317.27
Fe	56	72	2	H2	0.233	ug/l	21856.54
Fe	56	72	3	He	0.599	ug/l	18805.97
Co	59	72	1	No Gas	-0.015	ug/l	455.77
Ni	60	72	1	No Gas	0.038	ug/l	911.56
Ni	60	72	3	He	0.044	ug/l	315.56
Cu	63	72	1	No Gas	-0.017	ug/l	1643.42
Cu	63	72	3	He	-0.022	ug/l	467.58
Cu	65	72	1	No Gas	-0.031	ug/l	507.55
Zn	66	72	1	No Gas	-0.088	ug/l	483.94
Zn	66	72	3	He	-0.005	ug/l	163.34
As	75	72	1	No Gas	-0.097	ug/l	17589.56
As	75	72	3	He	0.126	ug/l	1139.36
Se	78	72	2	H2	0.027	ug/l	54.56
Br	79	72	1	No Gas	0.916	ug/l	28785.47
Br	79	72	2	H2	0.422	ug/l	16943.07
Se	82	72	1	No Gas	-0.356	ug/l	624.48
Kr	84	72	1	No Gas		ug/l	17322.92
Sr	88	72	1	No Gas	0.004	ug/l	286.10
Sr	88	72	3	He	0.011	ug/l	140.00
Mo	95	115	1	No Gas	0.112	ug/l	452.65
Mo	95	115	3	He	0.045	ug/l	75.56
Mo	98	115	1	No Gas	0.045	ug/l	300.91
Ag	107	115	1	No Gas	0.000	ug/l	630.27
Ag	109	115	1	No Gas	-0.003	ug/l	538.23
Cd	111	115	1	No Gas	-0.009	ug/l	-7.07

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	-0.007	ug/l	-69.47
Cd	114	115	3	He	-0.006	ug/l	2.52
Sn	118	115	1	No Gas	1.763	ug/l	9790.70
Sn	118	115	3	He	2.002	ug/l	3663.83
Sb	121	115	1	No Gas	0.611	ug/l	5345.56
Sb	121	115	3	He	0.579	ug/l	1664.60
Sb	123	115	1	No Gas	0.611	ug/l	3995.97
Sb	123	115	3	He	0.598	ug/l	1328.53
Ba	135	115	1	No Gas	-0.002	ug/l	13.31
Ba	137	115	1	No Gas	-0.006	ug/l	33.27
La	139	115	3	He	-5.555	ug/l	7.78
Ce	140	115	3	He	0.013	ug/l	30.00
Hg	201	209	1	No Gas	0.032	ug/l	13.33
Hg	202	209	1	No Gas	0.014	ug/l	23.00
Hg	202	209	3	He	0.044	ug/l	11.67
Tl	203	209	3	He	0.101	ug/l	299.46
Tl	205	209	1	No Gas	0.085	ug/l	984.49
Tl	205	209	3	He	0.099	ug/l	688.96
[Pb]	206	209	1	No Gas	-0.003	ug/l	111.11
[Pb]	207	209	1	No Gas	0.003	ug/l	96.67
Pb	208	209	1	No Gas	0.000	ug/l	406.67
Th	232	209	3	He	0.022	ug/l	180.08
U	238	209	1	No Gas	0.003	ug/l	53.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2508942.88	93.3
Sc	45	2	H2	1367812.78	85.8
Sc	45	3	He	192873.81	85.3
Ge	72	1	No Gas	625609.60	95.9
Ge	72	2	H2	517911.67	93.1
Ge	72	3	He	111988.85	89.2
In	115	1	No Gas	2940605.57	95.6
In	115	3	He	881412.19	92.0
Tb	159	1	No Gas	2673504.53	100.3
Tb	159	3	He	1462647.69	96.9
Ho	165	1	No Gas	2380748.17	98.9
Ho	165	3	He	1357844.59	97.7
Lu	175	1	No Gas	2235416.17	99.7
Lu	175	3	He	1058589.48	97.2
Bi	209	1	No Gas	1405517.48	98.4
Bi	209	3	He	878123.29	101.2

ICPMS207-B Analytical Data

Sample Name	MB-162926
File Name	048ARef.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:52:31
Sample Type	AllRef
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	1.928	ug/l	15691.04
Be	9	45	1	No Gas	-0.078	ug/l	49.99
B	11	45	1	No Gas	3.969	ug/l	6323.20
Na	23	45	3	He	62.466	ug/l	68860.97
Mg	24	45	3	He	2.210	ug/l	1633.53
Al	27	45	1	No Gas	3.630	ug/l	39717.07
Si	28	45	2	H2	10.819	ug/l	34473.41
K	39	72	3	He	3.990	ug/l	120364.23
Ca	40	72	2	H2	16.415	ug/l	256080.02
Ti	47	72	1	No Gas	0.091	ug/l	638.99
V	51	72	1	No Gas	-1.302	ug/l	-65728.44
V	51	72	3	He	9.442	ug/l	46752.94
Cr	52	72	1	No Gas	5.983	ug/l	151144.46
Cr	52	72	3	He	0.420	ug/l	4820.81
Mn	55	72	1	No Gas	1.812	ug/l	35699.04
Mn	55	72	3	He	0.191	ug/l	603.56
Fe	56	72	2	H2	1.335	ug/l	28511.30
Fe	56	72	3	He	2.538	ug/l	20229.20
Co	59	72	1	No Gas	0.065	ug/l	1463.84
Ni	60	72	1	No Gas	0.064	ug/l	855.00
Ni	60	72	3	He	0.079	ug/l	296.67
Cu	63	72	1	No Gas	0.303	ug/l	3703.96
Cu	63	72	3	He	0.480	ug/l	1594.44
Cu	65	72	1	No Gas	0.277	ug/l	1460.66
Zn	66	72	1	No Gas	0.207	ug/l	1121.70
Zn	66	72	3	He	0.288	ug/l	306.67
As	75	72	1	No Gas	3.609	ug/l	27042.79
As	75	72	3	He	1.005	ug/l	1540.45
Se	78	72	2	H2	0.060	ug/l	59.00
Br	79	72	1	No Gas	9.462	ug/l	71912.33
Br	79	72	2	H2	9.589	ug/l	49736.70
Se	82	72	1	No Gas	0.046	ug/l	600.35
Kr	84	72	1	No Gas		ug/l	16403.55
Sr	88	72	1	No Gas	0.038	ug/l	798.44
Sr	88	72	3	He	0.042	ug/l	193.34
Mo	95	115	1	No Gas	0.052	ug/l	174.45
Mo	95	115	3	He	0.059	ug/l	80.00
Mo	98	115	1	No Gas	0.049	ug/l	258.00
Ag	107	115	1	No Gas	-0.065	ug/l	22.01
Ag	109	115	1	No Gas	-0.061	ug/l	29.34
Cd	111	115	1	No Gas	0.005	ug/l	14.96

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	9.11
Cd	114	115	1	No Gas	0.016	ug/l	21.44
Cd	114	115	3	He	0.002	ug/l	14.37
Sn	118	115	1	No Gas	0.461	ug/l	2615.08
Sn	118	115	3	He	0.524	ug/l	982.26
Sb	121	115	1	No Gas	0.491	ug/l	3451.11
Sb	121	115	3	He	0.377	ug/l	905.45
Sb	123	115	1	No Gas	0.496	ug/l	2605.50
Sb	123	115	3	He	0.408	ug/l	753.43
Ba	135	115	1	No Gas	0.060	ug/l	83.17
Ba	137	115	1	No Gas	0.067	ug/l	172.99
La	139	115	3	He	19.710	ug/l	15.55
Ce	140	115	3	He	0.016	ug/l	30.00
Hg	201	209	1	No Gas	0.125	ug/l	20.00
Hg	202	209	1	No Gas	0.059	ug/l	28.32
Hg	202	209	3	He	0.070	ug/l	14.33
Tl	203	209	3	He	0.110	ug/l	285.45
Tl	205	209	1	No Gas	0.094	ug/l	857.81
Tl	205	209	3	He	0.107	ug/l	656.28
[Pb]	206	209	1	No Gas	0.056	ug/l	220.00
[Pb]	207	209	1	No Gas	0.059	ug/l	183.34
Pb	208	209	1	No Gas	0.057	ug/l	828.91
Th	232	209	3	He	0.058	ug/l	369.49
U	238	209	1	No Gas	0.001	ug/l	27.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1969582.55	73.2
Sc	45	2	H2	1131507.01	71.0
Sc	45	3	He	155482.99	68.8
Ge	72	1	No Gas	534092.56	81.9
Ge	72	2	H2	439915.37	79.1
Ge	72	3	He	93556.61	74.5
In	115	1	No Gas	2348197.29	76.3
In	115	3	He	722501.86	75.4
Tb	159	1	No Gas	2103182.20	78.9
Tb	159	3	He	1267857.89	84.0
Ho	165	1	No Gas	1869021.65	77.6
Ho	165	3	He	1166584.75	83.9
Lu	175	1	No Gas	1794441.00	80.1
Lu	175	3	He	911827.61	83.7
Bi	209	1	No Gas	1138744.16	79.7
Bi	209	3	He	786767.36	90.6

ICPMS207-B Analytical Data

Sample Name	LCS4-162926
File Name	049LCS4.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 16:58:44
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	108.584	ug/l	421562.03
Be	9	45	1	No Gas	50.910	ug/l	92242.89
B	11	45	1	No Gas	113.405	ug/l	138925.40
Na	23	45	3	He	5644.620	ug/l	2696079.26
Mg	24	45	3	He	5513.762	ug/l	1427840.22
Al	27	45	1	No Gas	477.822	ug/l	4347359.90
Si	28	45	2	H2	949.113	ug/l	1087866.38
K	39	72	3	He	4361.187	ug/l	1689500.71
Ca	40	72	2	H2	4444.293	ug/l	20673052.12
Ti	47	72	1	No Gas	87.001	ug/l	99222.37
V	51	72	1	No Gas	92.054	ug/l	1237552.05
V	51	72	3	He	107.076	ug/l	296297.21
Cr	52	72	1	No Gas	96.155	ug/l	1275322.59
Cr	52	72	3	He	103.578	ug/l	283913.75
Mn	55	72	1	No Gas	475.912	ug/l	7372422.01
Mn	55	72	3	He	495.311	ug/l	908660.62
Fe	56	72	2	H2	482.638	ug/l	4414111.77
Fe	56	72	3	He	506.223	ug/l	1214200.54
Co	59	72	1	No Gas	91.253	ug/l	1235392.38
Ni	60	72	1	No Gas	89.872	ug/l	277807.53
Ni	60	72	3	He	110.945	ug/l	107674.09
Cu	63	72	1	No Gas	92.901	ug/l	677793.33
Cu	63	72	3	He	115.383	ug/l	282236.89
Cu	65	72	1	No Gas	93.381	ug/l	316168.22
Zn	66	72	1	No Gas	95.541	ug/l	232290.76
Zn	66	72	3	He	106.282	ug/l	62914.25
As	75	72	1	No Gas	94.299	ug/l	323638.34
As	75	72	3	He	101.400	ug/l	69876.61
Se	78	72	2	H2	98.935	ug/l	38707.65
Br	79	72	1	No Gas	8.392	ug/l	66564.76
Br	79	72	2	H2	8.661	ug/l	46619.32
Se	82	72	1	No Gas	94.296	ug/l	16851.09
Kr	84	72	1	No Gas		ug/l	26445.40
Sr	88	72	1	No Gas	95.146	ug/l	1564153.65
Sr	88	72	3	He	99.137	ug/l	248856.46
Mo	95	115	1	No Gas	92.579	ug/l	278804.30
Mo	95	115	3	He	105.171	ug/l	133260.92
Mo	98	115	1	No Gas	94.298	ug/l	446997.02
Ag	107	115	1	No Gas	9.493	ug/l	69944.46
Ag	109	115	1	No Gas	9.564	ug/l	65772.85
Cd	111	115	1	No Gas	50.055	ug/l	74407.35

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.263	ug/l	32804.15
Cd	114	115	1	No Gas	49.586	ug/l	161940.78
Cd	114	115	3	He	54.571	ug/l	78961.31
Sn	118	115	1	No Gas	101.838	ug/l	405020.55
Sn	118	115	3	He	106.506	ug/l	149671.35
Sb	121	115	1	No Gas	97.180	ug/l	662328.95
Sb	121	115	3	He	103.091	ug/l	241187.55
Sb	123	115	1	No Gas	101.168	ug/l	514524.53
Sb	123	115	3	He	104.743	ug/l	190055.66
Ba	135	115	1	No Gas	94.807	ug/l	110538.09
Ba	137	115	1	No Gas	94.505	ug/l	188634.07
La	139	115	3	He	2139425.919	ug/l	801712.29
Ce	140	115	3	He	564.381	ug/l	850921.09
Hg	201	209	1	No Gas	0.073	ug/l	15.00
Hg	202	209	1	No Gas	0.045	ug/l	25.66
Hg	202	209	3	He	0.088	ug/l	17.67
Tl	203	209	3	He	99.686	ug/l	202791.90
Tl	205	209	1	No Gas	100.017	ug/l	668581.45
Tl	205	209	3	He	98.279	ug/l	477493.35
[Pb]	206	209	1	No Gas	101.035	ug/l	228246.79
[Pb]	207	209	1	No Gas	103.014	ug/l	195276.06
Pb	208	209	1	No Gas	100.814	ug/l	895007.23
Th	232	209	3	He	97.149	ug/l	573018.84
U	238	209	1	No Gas	96.238	ug/l	729496.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1990053.23	74.0
Sc	45	2	H2	1137038.37	71.3
Sc	45	3	He	153736.06	68.0
Ge	72	1	No Gas	539598.61	82.7
Ge	72	2	H2	444307.15	79.9
Ge	72	3	He	95123.30	75.8
In	115	1	No Gas	2330998.81	75.8
In	115	3	He	741102.16	77.4
Tb	159	1	No Gas	2146111.14	80.5
Tb	159	3	He	1308566.20	86.7
Ho	165	1	No Gas	1974620.99	82.0
Ho	165	3	He	1216142.27	87.5
Lu	175	1	No Gas	1845136.62	82.3
Lu	175	3	He	950867.90	87.3
Bi	209	1	No Gas	1155728.38	80.9
Bi	209	3	He	819320.35	94.4

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	050BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:04:57
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	0.334	ug/l	11354.12
Be	9	45	1	No Gas	-0.086	ug/l	40.66
B	11	45	1	No Gas	1.579	ug/l	4050.84
Na	23	45	3	He	28.211	ug/l	60340.32
Mg	24	45	3	He	2.235	ug/l	1883.05
Al	27	45	1	No Gas	1.010	ug/l	18943.12
Si	28	45	2	H2	-12.209	ug/l	10138.18
K	39	72	3	He	-25.641	ug/l	126319.39
Ca	40	72	2	H2	-2.154	ug/l	189873.85
Ti	47	72	1	No Gas	-0.248	ug/l	280.29
V	51	72	1	No Gas	2.570	ug/l	-13434.06
V	51	72	3	He	0.606	ug/l	28291.66
Cr	52	72	1	No Gas	0.308	ug/l	88190.65
Cr	52	72	3	He	0.039	ug/l	4378.45
Mn	55	72	1	No Gas	0.493	ug/l	16819.63
Mn	55	72	3	He	0.004	ug/l	305.61
Fe	56	72	2	H2	0.235	ug/l	20593.46
Fe	56	72	3	He	0.458	ug/l	17688.40
Co	59	72	1	No Gas	-0.008	ug/l	522.31
Ni	60	72	1	No Gas	-0.055	ug/l	535.62
Ni	60	72	3	He	0.059	ug/l	318.90
Cu	63	72	1	No Gas	-0.016	ug/l	1529.36
Cu	63	72	3	He	0.031	ug/l	593.89
Cu	65	72	1	No Gas	0.005	ug/l	600.26
Zn	66	72	1	No Gas	0.633	ug/l	2327.30
Zn	66	72	3	He	0.328	ug/l	378.90
As	75	72	1	No Gas	0.543	ug/l	18572.28
As	75	72	3	He	-0.076	ug/l	938.88
Se	78	72	2	H2	0.021	ug/l	48.56
Br	79	72	1	No Gas	1.999	ug/l	33142.41
Br	79	72	2	H2	1.589	ug/l	20943.61
Se	82	72	1	No Gas	-0.424	ug/l	565.81
Kr	84	72	1	No Gas		ug/l	16027.16
Sr	88	72	1	No Gas	0.002	ug/l	236.20
Sr	88	72	3	He	0.005	ug/l	117.78
Mo	95	115	1	No Gas	0.019	ug/l	84.44
Mo	95	115	3	He	0.015	ug/l	30.00
Mo	98	115	1	No Gas	0.012	ug/l	97.08
Ag	107	115	1	No Gas	0.002	ug/l	606.26
Ag	109	115	1	No Gas	0.004	ug/l	554.23
Cd	111	115	1	No Gas	-0.019	ug/l	-23.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.009	ug/l	13.89
Cd	114	115	1	No Gas	-0.011	ug/l	-79.97
Cd	114	115	3	He	0.009	ug/l	28.23
Sn	118	115	1	No Gas	1.821	ug/l	9397.90
Sn	118	115	3	He	1.836	ug/l	3242.62
Sb	121	115	1	No Gas	0.161	ug/l	1388.21
Sb	121	115	3	He	0.137	ug/l	417.05
Sb	123	115	1	No Gas	0.156	ug/l	1008.14
Sb	123	115	3	He	0.143	ug/l	331.04
Ba	135	115	1	No Gas	-0.008	ug/l	3.33
Ba	137	115	1	No Gas	0.000	ug/l	43.25
La	139	115	3	He	21.334	ug/l	18.89
Ce	140	115	3	He	0.017	ug/l	35.56
Hg	201	209	1	No Gas	0.015	ug/l	10.67
Hg	202	209	1	No Gas	0.006	ug/l	19.66
Hg	202	209	3	He	0.014	ug/l	6.67
Tl	203	209	3	He	0.323	ug/l	781.01
Tl	205	209	1	No Gas	0.290	ug/l	2512.49
Tl	205	209	3	He	0.320	ug/l	1834.20
[Pb]	206	209	1	No Gas	-0.001	ug/l	110.00
[Pb]	207	209	1	No Gas	0.005	ug/l	95.56
Pb	208	209	1	No Gas	0.003	ug/l	422.23
Th	232	209	3	He	0.026	ug/l	208.09
U	238	209	1	No Gas	0.002	ug/l	39.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2306622.07	85.7
Sc	45	2	H2	1310932.00	82.2
Sc	45	3	He	178527.71	79.0
Ge	72	1	No Gas	579706.28	88.9
Ge	72	2	H2	487596.14	87.7
Ge	72	3	He	107574.75	85.7
In	115	1	No Gas	2741228.30	89.1
In	115	3	He	844009.52	88.1
Tb	159	1	No Gas	2446243.84	91.8
Tb	159	3	He	1442346.33	95.5
Ho	165	1	No Gas	2243226.53	93.2
Ho	165	3	He	1332144.36	95.8
Lu	175	1	No Gas	2116185.10	94.4
Lu	175	3	He	1033055.78	94.9
Bi	209	1	No Gas	1330611.52	93.1
Bi	209	3	He	875577.81	100.9

ICPMS207-B Analytical Data

Sample Name	B22010507-001A
File Name	051SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:11:11
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	-0.100	ug/l	11147.22
Be	9	45	1	No Gas	-0.086	ug/l	47.66
B	11	45	1	No Gas	84.286	ug/l	141851.89
Na	23	45	3	He	94862.484	ug/l	62620092.40
Mg	24	45	3	He	37864.242	ug/l	13726682.51
Al	27	45	1	No Gas	3.249	ug/l	50188.33
Si	28	45	2	H2	23192.491	ug/l	34945258.63
K	39	72	3	He	2799.081	ug/l	1478843.80
Ca	40	72	2	H2	38469.941	ug/l	221098145.36
Ti	47	72	1	No Gas	1.144	ug/l	2210.73
V	51	72	1	No Gas	19.004	ug/l	260521.61
V	51	72	3	He	8.076	ug/l	57761.75
Cr	52	72	1	No Gas	-1.690	ug/l	68719.80
Cr	52	72	3	He	0.150	ug/l	5471.04
Mn	55	72	1	No Gas	4.672	ug/l	96433.28
Mn	55	72	3	He	4.351	ug/l	10808.82
Fe	56	72	2	H2	17.371	ug/l	217810.48
Fe	56	72	3	He	17.206	ug/l	72546.03
Co	59	72	1	No Gas	0.085	ug/l	2099.32
Ni	60	72	1	No Gas	0.522	ug/l	2734.84
Ni	60	72	3	He	0.460	ug/l	880.03
Cu	63	72	1	No Gas	1.087	ug/l	11353.02
Cu	63	72	3	He	0.721	ug/l	2899.04
Cu	65	72	1	No Gas	0.839	ug/l	4056.87
Zn	66	72	1	No Gas	1.643	ug/l	5539.77
Zn	66	72	3	He	1.797	ug/l	1577.87
As	75	72	1	No Gas	0.570	ug/l	20874.32
As	75	72	3	He	0.906	ug/l	1964.76
Se	78	72	2	H2	0.370	ug/l	225.23
Br	79	72	1	No Gas	59.786	ug/l	425226.52
Br	79	72	2	H2	60.775	ug/l	310761.85
Se	82	72	1	No Gas	0.578	ug/l	840.09
Kr	84	72	1	No Gas		ug/l	55943.80
Sr	88	72	1	No Gas	307.524	ug/l	6071957.34
Sr	88	72	3	He	289.046	ug/l	951228.96
Mo	95	115	1	No Gas	3.380	ug/l	13408.58
Mo	95	115	3	He	3.757	ug/l	5979.07
Mo	98	115	1	No Gas	3.401	ug/l	21241.09
Ag	107	115	1	No Gas	-0.062	ug/l	60.69
Ag	109	115	1	No Gas	-0.059	ug/l	58.69
Cd	111	115	1	No Gas	0.046	ug/l	101.04

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.041	ug/l	40.33
Cd	114	115	1	No Gas	0.051	ug/l	179.48
Cd	114	115	3	He	0.039	ug/l	85.32
Sn	118	115	1	No Gas	-0.098	ug/l	495.69
Sn	118	115	3	He	-0.072	ug/l	214.45
Sb	121	115	1	No Gas	0.095	ug/l	955.13
Sb	121	115	3	He	0.098	ug/l	345.71
Sb	123	115	1	No Gas	0.098	ug/l	736.10
Sb	123	115	3	He	0.112	ug/l	294.36
Ba	135	115	1	No Gas	10.305	ug/l	15807.70
Ba	137	115	1	No Gas	10.049	ug/l	26436.03
La	139	115	3	He	10.285	ug/l	15.56
Ce	140	115	3	He	0.005	ug/l	16.67
Hg	201	209	1	No Gas	0.520	ug/l	77.65
Hg	202	209	1	No Gas	11.023	ug/l	3182.09
Hg	202	209	3	He	9.254	ug/l	1579.45
Tl	203	209	3	He	0.172	ug/l	470.20
Tl	205	209	1	No Gas	0.111	ug/l	1272.30
Tl	205	209	3	He	0.159	ug/l	1034.46
[Pb]	206	209	1	No Gas	0.002	ug/l	132.22
[Pb]	207	209	1	No Gas	0.019	ug/l	141.11
Pb	208	209	1	No Gas	0.012	ug/l	571.11
Th	232	209	3	He	0.002	ug/l	59.36
U	238	209	1	No Gas	0.196	ug/l	1945.09

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2724443.74	101.3
Sc	45	2	H2	1525000.57	95.6
Sc	45	3	He	215389.02	95.3
Ge	72	1	No Gas	648115.08	99.3
Ge	72	2	H2	553213.62	99.5
Ge	72	3	He	124726.99	99.4
In	115	1	No Gas	3068895.69	99.8
In	115	3	He	929482.13	97.1
Tb	159	1	No Gas	2887601.51	108.3
Tb	159	3	He	1575536.20	104.3
Ho	165	1	No Gas	2637926.71	109.6
Ho	165	3	He	1453251.04	104.5
Lu	175	1	No Gas	2501284.92	111.6
Lu	175	3	He	1139691.46	104.7
Bi	209	1	No Gas	1493934.35	104.6
Bi	209	3	He	907408.06	104.5

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	052_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:17:25
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	664.937	ug/l	2934061.83
Be	9	45	1	No Gas	52.484	ug/l	109937.88
B	11	45	1	No Gas	58.362	ug/l	83539.51
Na	23	45	3	He	13466.133	ug/l	7597625.51
Mg	24	45	3	He	13249.522	ug/l	4085251.79
Al	27	45	1	No Gas	49.243	ug/l	525395.42
Si	28	45	2	H2	192.504	ug/l	274901.04
K	39	72	3	He	11452.573	ug/l	4856567.01
Ca	40	72	2	H2	11327.188	ug/l	58500187.29
Ti	47	72	1	No Gas	48.747	ug/l	60423.85
V	51	72	1	No Gas	52.842	ug/l	746604.74
V	51	72	3	He	53.248	ug/l	182294.18
Cr	52	72	1	No Gas	51.440	ug/l	777580.75
Cr	52	72	3	He	52.372	ug/l	166575.39
Mn	55	72	1	No Gas	52.079	ug/l	880727.83
Mn	55	72	3	He	51.161	ug/l	107768.80
Fe	56	72	2	H2	1283.275	ug/l	13070898.88
Fe	56	72	3	He	1315.747	ug/l	3587512.59
Co	59	72	1	No Gas	49.863	ug/l	730700.30
Ni	60	72	1	No Gas	49.080	ug/l	164508.46
Ni	60	72	3	He	56.687	ug/l	63135.88
Cu	63	72	1	No Gas	50.884	ug/l	402452.38
Cu	63	72	3	He	58.143	ug/l	163145.71
Cu	65	72	1	No Gas	51.597	ug/l	189296.69
Zn	66	72	1	No Gas	52.673	ug/l	138850.50
Zn	66	72	3	He	56.165	ug/l	38157.78
As	75	72	1	No Gas	54.991	ug/l	211202.71
As	75	72	3	He	52.568	ug/l	41978.82
Se	78	72	2	H2	52.224	ug/l	22827.75
Br	79	72	1	No Gas	1.063	ug/l	27715.37
Br	79	72	2	H2	0.706	ug/l	17455.94
Se	82	72	1	No Gas	53.119	ug/l	10554.13
Kr	84	72	1	No Gas		ug/l	23482.58
Sr	88	72	1	No Gas	52.461	ug/l	933489.74
Sr	88	72	3	He	51.471	ug/l	148047.19
Mo	95	115	1	No Gas	48.606	ug/l	169785.44
Mo	95	115	3	He	54.398	ug/l	77230.86
Mo	98	115	1	No Gas	49.046	ug/l	269711.93
Ag	107	115	1	No Gas	19.792	ug/l	168439.98
Ag	109	115	1	No Gas	19.878	ug/l	157987.91
Cd	111	115	1	No Gas	51.525	ug/l	88820.23

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	55.222	ug/l	38104.28
Cd	114	115	1	No Gas	51.554	ug/l	195225.98
Cd	114	115	3	He	56.369	ug/l	91377.03
Sn	118	115	1	No Gas	50.422	ug/l	233080.12
Sn	118	115	3	He	54.273	ug/l	85602.08
Sb	121	115	1	No Gas	50.850	ug/l	401882.71
Sb	121	115	3	He	54.030	ug/l	141633.76
Sb	123	115	1	No Gas	51.190	ug/l	301906.13
Sb	123	115	3	He	54.123	ug/l	110036.75
Ba	135	115	1	No Gas	51.942	ug/l	70267.57
Ba	137	115	1	No Gas	50.579	ug/l	117145.90
La	139	115	3	He	35.339	ug/l	24.45
Ce	140	115	3	He	271.611	ug/l	458795.34
Hg	201	209	1	No Gas	4.857	ug/l	579.90
Hg	202	209	1	No Gas	5.040	ug/l	1326.80
Hg	202	209	3	He	5.351	ug/l	871.86
Tl	203	209	3	He	51.151	ug/l	109779.01
Tl	205	209	1	No Gas	49.893	ug/l	390597.58
Tl	205	209	3	He	50.530	ug/l	258990.79
[Pb]	206	209	1	No Gas	50.473	ug/l	133484.59
[Pb]	207	209	1	No Gas	52.121	ug/l	115660.71
Pb	208	209	1	No Gas	51.494	ug/l	535136.57
Th	232	209	3	He	50.753	ug/l	315707.11
U	238	209	1	No Gas	48.627	ug/l	431376.72

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2300517.41	85.5
Sc	45	2	H2	1310128.24	82.2
Sc	45	3	He	183131.64	81.0
Ge	72	1	No Gas	583832.13	89.5
Ge	72	2	H2	495933.84	89.2
Ge	72	3	He	108951.03	86.8
In	115	1	No Gas	2704432.07	87.9
In	115	3	He	830253.22	86.7
Tb	159	1	No Gas	2509264.25	94.1
Tb	159	3	He	1440833.14	95.4
Ho	165	1	No Gas	2265011.23	94.1
Ho	165	3	He	1328976.17	95.6
Lu	175	1	No Gas	2128624.59	95.0
Lu	175	3	He	1032798.82	94.8
Bi	209	1	No Gas	1351742.71	94.6
Bi	209	3	He	864243.83	99.6

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	053_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:23:39
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	0.135	ug/l	10441.10
Be	9	45	1	No Gas	-0.077	ug/l	59.66
B	11	45	1	No Gas	1.724	ug/l	4238.30
Na	23	45	3	He	29.145	ug/l	59883.99
Mg	24	45	3	He	0.558	ug/l	1357.37
Al	27	45	1	No Gas	-0.268	ug/l	5463.26
Si	28	45	2	H2	-13.318	ug/l	8515.17
K	39	72	3	He	-13.760	ug/l	128286.32
Ca	40	72	2	H2	-2.720	ug/l	184310.12
Ti	47	72	1	No Gas	-0.236	ug/l	291.97
V	51	72	1	No Gas	2.730	ug/l	-11113.66
V	51	72	3	He	0.569	ug/l	27569.08
Cr	52	72	1	No Gas	0.462	ug/l	89425.64
Cr	52	72	3	He	0.025	ug/l	4238.42
Mn	55	72	1	No Gas	0.498	ug/l	16752.93
Mn	55	72	3	He	-0.001	ug/l	288.61
Fe	56	72	2	H2	0.287	ug/l	20808.97
Fe	56	72	3	He	0.578	ug/l	17613.26
Co	59	72	1	No Gas	-0.011	ug/l	479.06
Ni	60	72	1	No Gas	-0.022	ug/l	638.75
Ni	60	72	3	He	0.057	ug/l	311.12
Cu	63	72	1	No Gas	-0.038	ug/l	1347.94
Cu	63	72	3	He	-0.004	ug/l	486.24
Cu	65	72	1	No Gas	-0.011	ug/l	538.23
Zn	66	72	1	No Gas	-0.053	ug/l	537.38
Zn	66	72	3	He	-0.025	ug/l	140.00
As	75	72	1	No Gas	1.094	ug/l	20299.18
As	75	72	3	He	-0.050	ug/l	938.14
Se	78	72	2	H2	-0.006	ug/l	36.33
Br	79	72	1	No Gas	0.345	ug/l	22979.59
Br	79	72	2	H2	0.123	ug/l	14458.61
Se	82	72	1	No Gas	0.728	ug/l	772.75
Kr	84	72	1	No Gas		ug/l	16933.15
Sr	88	72	1	No Gas	0.002	ug/l	242.86
Sr	88	72	3	He	0.005	ug/l	114.45
Mo	95	115	1	No Gas	0.016	ug/l	74.44
Mo	95	115	3	He	0.015	ug/l	28.89
Mo	98	115	1	No Gas	0.020	ug/l	138.68
Ag	107	115	1	No Gas	-0.002	ug/l	572.24
Ag	109	115	1	No Gas	0.002	ug/l	538.90
Cd	111	115	1	No Gas	-0.001	ug/l	8.21

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	7.89
Cd	114	115	1	No Gas	0.003	ug/l	-26.75
Cd	114	115	3	He	0.004	ug/l	18.31
Sn	118	115	1	No Gas	0.000	ug/l	898.25
Sn	118	115	3	He	-0.007	ug/l	288.89
Sb	121	115	1	No Gas	0.084	ug/l	767.10
Sb	121	115	3	He	0.079	ug/l	253.36
Sb	123	115	1	No Gas	0.089	ug/l	603.07
Sb	123	115	3	He	0.087	ug/l	209.35
Ba	135	115	1	No Gas	0.001	ug/l	16.63
Ba	137	115	1	No Gas	-0.009	ug/l	23.29
La	139	115	3	He	-6.783	ug/l	6.67
Ce	140	115	3	He	0.009	ug/l	22.22
Hg	201	209	1	No Gas	0.024	ug/l	11.67
Hg	202	209	1	No Gas	0.065	ug/l	34.66
Hg	202	209	3	He	0.053	ug/l	13.00
Tl	203	209	3	He	0.303	ug/l	725.64
Tl	205	209	1	No Gas	0.262	ug/l	2285.78
Tl	205	209	3	He	0.317	ug/l	1790.84
[Pb]	206	209	1	No Gas	-0.007	ug/l	93.33
[Pb]	207	209	1	No Gas	-0.004	ug/l	76.66
Pb	208	209	1	No Gas	-0.002	ug/l	367.78
Th	232	209	3	He	0.020	ug/l	165.40
U	238	209	1	No Gas	0.068	ug/l	616.47

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2298488.37	85.4
Sc	45	2	H2	1282909.97	80.5
Sc	45	3	He	175706.17	77.7
Ge	72	1	No Gas	574436.27	88.1
Ge	72	2	H2	480473.73	86.4
Ge	72	3	He	105213.42	83.8
In	115	1	No Gas	2730545.21	88.8
In	115	3	He	816969.73	85.3
Tb	159	1	No Gas	2504766.42	94.0
Tb	159	3	He	1393702.70	92.3
Ho	165	1	No Gas	2242461.03	93.2
Ho	165	3	He	1284814.10	92.4
Lu	175	1	No Gas	2051285.95	91.5
Lu	175	3	He	1027662.90	94.4
Bi	209	1	No Gas	1327122.06	92.9
Bi	209	3	He	860941.20	99.2

ICPMS207-B Analytical Data

Sample Name	B22010507-001B
File Name	054SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:29:54
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	1.383	ug/l	13564.15
Be	9	45	1	No Gas	-0.073	ug/l	56.99
B	11	45	1	No Gas	98.441	ug/l	118957.32
Na	23	45	3	He	102754.616	ug/l	47099405.96
Mg	24	45	3	He	40696.897	ug/l	10246802.18
Al	27	45	1	No Gas	38.682	ug/l	353154.08
Si	28	45	2	H2	23504.831	ug/l	25663946.65
K	39	72	3	He	2711.065	ug/l	1068380.23
Ca	40	72	2	H2	37704.962	ug/l	167052806.92
Ti	47	72	1	No Gas	3.927	ug/l	4798.97
V	51	72	1	No Gas	18.291	ug/l	198982.72
V	51	72	3	He	21.710	ug/l	76800.59
Cr	52	72	1	No Gas	5.552	ug/l	141524.02
Cr	52	72	3	He	1.322	ug/l	7157.32
Mn	55	72	1	No Gas	6.584	ug/l	105577.43
Mn	55	72	3	He	5.286	ug/l	9705.26
Fe	56	72	2	H2	141.073	ug/l	1249859.37
Fe	56	72	3	He	145.315	ug/l	349777.93
Co	59	72	1	No Gas	0.203	ug/l	3207.33
Ni	60	72	1	No Gas	0.971	ug/l	3516.81
Ni	60	72	3	He	0.789	ug/l	964.48
Cu	63	72	1	No Gas	1.611	ug/l	12744.68
Cu	63	72	3	He	1.383	ug/l	3731.07
Cu	65	72	1	No Gas	1.298	ug/l	4736.01
Zn	66	72	1	No Gas	3.284	ug/l	8254.56
Zn	66	72	3	He	3.808	ug/l	2330.20
As	75	72	1	No Gas	3.904	ug/l	27143.76
As	75	72	3	He	2.850	ug/l	2749.81
Se	78	72	2	H2	0.463	ug/l	208.33
Br	79	72	1	No Gas	22.617	ug/l	140434.77
Br	79	72	2	H2	23.999	ug/l	102079.55
Se	82	72	1	No Gas	0.147	ug/l	600.61
Kr	84	72	1	No Gas		ug/l	43736.25
Sr	88	72	1	No Gas	289.283	ug/l	4567993.35
Sr	88	72	3	He	290.755	ug/l	711302.08
Mo	95	115	1	No Gas	3.662	ug/l	10748.55
Mo	95	115	3	He	4.018	ug/l	4907.54
Mo	98	115	1	No Gas	3.593	ug/l	16597.12
Ag	107	115	1	No Gas	-0.046	ug/l	156.06
Ag	109	115	1	No Gas	-0.043	ug/l	148.73
Cd	111	115	1	No Gas	0.015	ug/l	28.81

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.009	ug/l	11.56
Cd	114	115	1	No Gas	0.025	ug/l	47.87
Cd	114	115	3	He	0.010	ug/l	25.05
Sn	118	115	1	No Gas	0.515	ug/l	2734.86
Sn	118	115	3	He	0.548	ug/l	1002.26
Sb	121	115	1	No Gas	0.133	ug/l	962.46
Sb	121	115	3	He	0.151	ug/l	385.05
Sb	123	115	1	No Gas	0.149	ug/l	798.10
Sb	123	115	3	He	0.144	ug/l	282.70
Ba	135	115	1	No Gas	10.696	ug/l	12151.25
Ba	137	115	1	No Gas	10.944	ug/l	21287.70
La	139	115	3	He	445.189	ug/l	168.89
Ce	140	115	3	He	0.279	ug/l	411.12
Hg	201	209	1	No Gas	0.715	ug/l	77.32
Hg	202	209	1	No Gas	13.268	ug/l	2872.41
Hg	202	209	3	He	11.039	ug/l	1594.45
Tl	203	209	3	He	0.176	ug/l	405.50
Tl	205	209	1	No Gas	0.115	ug/l	985.60
Tl	205	209	3	He	0.164	ug/l	901.73
[Pb]	206	209	1	No Gas	0.065	ug/l	236.67
[Pb]	207	209	1	No Gas	0.065	ug/l	191.11
Pb	208	209	1	No Gas	0.076	ug/l	987.80
Th	232	209	3	He	0.071	ug/l	431.51
U	238	209	1	No Gas	0.204	ug/l	1522.79

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1960262.90	72.9
Sc	45	2	H2	1105195.31	69.3
Sc	45	3	He	149578.14	66.2
Ge	72	1	No Gas	518210.87	79.4
Ge	72	2	H2	426455.54	76.7
Ge	72	3	He	92715.48	73.9
In	115	1	No Gas	2269013.11	73.8
In	115	3	He	713513.03	74.5
Tb	159	1	No Gas	2135242.59	80.1
Tb	159	3	He	1277791.65	84.6
Ho	165	1	No Gas	1956742.89	81.3
Ho	165	3	He	1186576.33	85.3
Lu	175	1	No Gas	1836226.77	81.9
Lu	175	3	He	935365.06	85.9
Bi	209	1	No Gas	1122054.59	78.5
Bi	209	3	He	768288.23	88.5

ICPMS207-B Analytical Data

Sample Name	B22010507-001BDIL
File Name	055SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:36:08
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	-1.058	ug/l	8402.37
Be	9	45	1	No Gas	-0.426	ug/l	39.99
B	11	45	1	No Gas	101.095	ug/l	28373.17
Na	23	45	3	He	104098.080	ug/l	10423040.47
Mg	24	45	3	He	40898.995	ug/l	2243119.99
Al	27	45	1	No Gas	49.867	ug/l	106507.71
Si	28	45	2	H2	21091.205	ug/l	5556044.08
K	39	72	3	He	2516.416	ug/l	319067.07
Ca	40	72	2	H2	34699.418	ug/l	36270669.81
Ti	47	72	1	No Gas	3.214	ug/l	1308.05
V	51	72	1	No Gas	18.537	ug/l	4336.54
V	51	72	3	He	25.223	ug/l	38388.82
Cr	52	72	1	No Gas	6.075	ug/l	96134.11
Cr	52	72	3	He	1.396	ug/l	4777.47
Mn	55	72	1	No Gas	8.685	ug/l	35922.47
Mn	55	72	3	He	5.152	ug/l	2274.72
Fe	56	72	2	H2	133.729	ug/l	293238.36
Fe	56	72	3	He	149.639	ug/l	90323.29
Co	59	72	1	No Gas	0.173	ug/l	1097.86
Ni	60	72	1	No Gas	1.146	ug/l	1417.27
Ni	60	72	3	He	1.084	ug/l	460.01
Cu	63	72	1	No Gas	2.015	ug/l	4603.25
Cu	63	72	3	He	1.874	ug/l	1443.12
Cu	65	72	1	No Gas	1.697	ug/l	1739.47
Zn	66	72	1	No Gas	5.762	ug/l	3527.89
Zn	66	72	3	He	6.493	ug/l	960.04
As	75	72	1	No Gas	11.751	ug/l	23838.10
As	75	72	3	He	2.800	ug/l	1334.63
Se	78	72	2	H2	0.405	ug/l	76.33
Br	79	72	1	No Gas	22.162	ug/l	45784.94
Br	79	72	2	H2	19.236	ug/l	31445.06
Se	82	72	1	No Gas	0.828	ug/l	646.88
Kr	84	72	1	No Gas		ug/l	21806.67
Sr	88	72	1	No Gas	295.125	ug/l	999113.61
Sr	88	72	3	He	283.791	ug/l	150617.20
Mo	95	115	1	No Gas	3.465	ug/l	2353.54
Mo	95	115	3	He	4.068	ug/l	1088.94
Mo	98	115	1	No Gas	3.523	ug/l	3763.17
Ag	107	115	1	No Gas	-0.305	ug/l	59.36
Ag	109	115	1	No Gas	-0.298	ug/l	44.02
Cd	111	115	1	No Gas	0.036	ug/l	21.18

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.034	ug/l	11.33
Cd	114	115	1	No Gas	0.102	ug/l	40.05
Cd	114	115	3	He	0.032	ug/l	21.43
Sn	118	115	1	No Gas	0.518	ug/l	1317.45
Sn	118	115	3	He	0.666	ug/l	482.23
Sb	121	115	1	No Gas	0.211	ug/l	413.05
Sb	121	115	3	He	0.235	ug/l	163.69
Sb	123	115	1	No Gas	0.205	ug/l	303.03
Sb	123	115	3	He	0.269	ug/l	135.68
Ba	135	115	1	No Gas	10.635	ug/l	2788.09
Ba	137	115	1	No Gas	10.770	ug/l	4854.58
La	139	115	3	He	422.065	ug/l	42.22
Ce	140	115	3	He	0.250	ug/l	85.56
Hg	201	209	1	No Gas	0.541	ug/l	20.67
Hg	202	209	1	No Gas	12.431	ug/l	629.22
Hg	202	209	3	He	10.539	ug/l	339.27
Tl	203	209	3	He	0.346	ug/l	222.76
Tl	205	209	1	No Gas	0.286	ug/l	692.25
Tl	205	209	3	He	0.418	ug/l	589.58
[Pb]	206	209	1	No Gas	0.082	ug/l	148.89
[Pb]	207	209	1	No Gas	0.076	ug/l	113.33
Pb	208	209	1	No Gas	0.099	ug/l	570.01
Th	232	209	3	He	0.057	ug/l	110.71
U	238	209	1	No Gas	0.194	ug/l	347.27

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2166550.83	80.5
Sc	45	2	H2	1335683.99	83.8
Sc	45	3	He	162842.57	72.0
Ge	72	1	No Gas	555626.64	85.2
Ge	72	2	H2	501976.28	90.3
Ge	72	3	He	100515.59	80.1
In	115	1	No Gas	2608732.34	84.8
In	115	3	He	777881.70	81.2
Tb	159	1	No Gas	2466449.88	92.5
Tb	159	3	He	1403910.66	93.0
Ho	165	1	No Gas	2170775.83	90.2
Ho	165	3	He	1294256.06	93.1
Lu	175	1	No Gas	2025697.27	90.4
Lu	175	3	He	1001854.14	92.0
Bi	209	1	No Gas	1281349.26	89.7
Bi	209	3	He	847130.50	97.6

ICPMS207-B Analytical Data

Sample Name	B22010507-001BPDS1
File Name	056ARef.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:42:21
Sample Type	AllRef
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	2595.310	ug/l	9596828.51
Be	9	45	1	No Gas	48.944	ug/l	86136.55
B	11	45	1	No Gas	153.297	ug/l	181926.89
Na	23	45	3	He	151693.137	ug/l	75237161.10
Mg	24	45	3	He	90354.603	ug/l	24618710.71
Al	27	45	1	No Gas	85.001	ug/l	757312.59
Si	28	45	2	H2	23396.598	ug/l	26365267.16
K	39	72	3	He	46067.328	ug/l	17382397.93
Ca	40	72	2	H2	78416.941	ug/l	367330050.44
Ti	47	72	1	No Gas	48.475	ug/l	56745.74
V	51	72	1	No Gas	55.895	ug/l	745762.15
V	51	72	3	He	74.762	ug/l	223519.17
Cr	52	72	1	No Gas	48.306	ug/l	696866.26
Cr	52	72	3	He	49.312	ug/l	142937.78
Mn	55	72	1	No Gas	49.634	ug/l	793625.77
Mn	55	72	3	He	52.246	ug/l	100054.22
Fe	56	72	2	H2	4769.523	ug/l	44145245.36
Fe	56	72	3	He	5105.510	ug/l	12612230.95
Co	59	72	1	No Gas	42.435	ug/l	587471.63
Ni	60	72	1	No Gas	42.694	ug/l	135231.58
Ni	60	72	3	He	51.929	ug/l	52603.16
Cu	63	72	1	No Gas	43.091	ug/l	322211.96
Cu	63	72	3	He	54.603	ug/l	139328.38
Cu	65	72	1	No Gas	43.526	ug/l	150881.05
Zn	66	72	1	No Gas	47.147	ug/l	117493.78
Zn	66	72	3	He	53.728	ug/l	33192.24
As	75	72	1	No Gas	49.848	ug/l	182737.65
As	75	72	3	He	52.913	ug/l	38432.69
Se	78	72	2	H2	48.214	ug/l	19176.95
Br	79	72	1	No Gas	22.096	ug/l	146938.17
Br	79	72	2	H2	24.395	ug/l	109927.54
Se	82	72	1	No Gas	43.676	ug/l	8321.43
Kr	84	72	1	No Gas		ug/l	49790.47
Sr	88	72	1	No Gas	313.020	ug/l	5259229.28
Sr	88	72	3	He	333.563	ug/l	871730.69
Mo	95	115	1	No Gas	49.878	ug/l	146656.92
Mo	95	115	3	He	55.469	ug/l	70929.87
Mo	98	115	1	No Gas	49.568	ug/l	229353.79
Ag	107	115	1	No Gas	19.343	ug/l	138633.98
Ag	109	115	1	No Gas	19.572	ug/l	130929.50
Cd	111	115	1	No Gas	49.122	ug/l	71276.67

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.026	ug/l	32329.06
Cd	114	115	1	No Gas	49.242	ug/l	156972.41
Cd	114	115	3	He	53.040	ug/l	77431.28
Sn	118	115	1	No Gas	49.399	ug/l	192193.09
Sn	118	115	3	He	52.955	ug/l	75239.14
Sb	121	115	1	No Gas	45.996	ug/l	306025.57
Sb	121	115	3	He	48.561	ug/l	114662.65
Sb	123	115	1	No Gas	46.014	ug/l	228473.42
Sb	123	115	3	He	49.019	ug/l	89745.80
Ba	135	115	1	No Gas	60.585	ug/l	68960.54
Ba	137	115	1	No Gas	60.641	ug/l	118192.96
La	139	115	3	He	651.332	ug/l	256.70
Ce	140	115	3	He	269.934	ug/l	410645.07
Hg	201	209	1	No Gas	5.732	ug/l	575.56
Hg	202	209	1	No Gas	19.066	ug/l	4184.50
Hg	202	209	3	He	17.255	ug/l	2485.41
Tl	203	209	3	He	50.104	ug/l	95368.73
Tl	205	209	1	No Gas	49.335	ug/l	325200.27
Tl	205	209	3	He	50.295	ug/l	228599.93
[Pb]	206	209	1	No Gas	49.512	ug/l	110284.14
[Pb]	207	209	1	No Gas	50.626	ug/l	94608.13
Pb	208	209	1	No Gas	50.164	ug/l	438955.34
Th	232	209	3	He	49.902	ug/l	275225.67
U	238	209	1	No Gas	48.866	ug/l	364991.38

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1992909.60	74.1
Sc	45	2	H2	1174772.66	73.7
Sc	45	3	He	166728.14	73.8
Ge	72	1	No Gas	567929.24	87.1
Ge	72	2	H2	464654.92	83.6
Ge	72	3	He	102015.06	81.3
In	115	1	No Gas	2343603.75	76.2
In	115	3	He	770213.06	80.4
Tb	159	1	No Gas	2250040.01	84.4
Tb	159	3	He	1352672.19	89.6
Ho	165	1	No Gas	2039546.71	84.7
Ho	165	3	He	1252604.97	90.1
Lu	175	1	No Gas	1919447.57	85.6
Lu	175	3	He	994851.74	91.4
Bi	209	1	No Gas	1172833.79	82.1
Bi	209	3	He	789341.19	90.9

ICPMS207-B Analytical Data

Sample Name	B22010507-001BMS4
File Name	057MS4.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:48:35
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	106.446	ug/l	464822.36
Be	9	45	1	No Gas	49.783	ug/l	101417.45
B	11	45	1	No Gas	203.473	ug/l	278831.71
Na	23	45	3	He	103592.421	ug/l	55878459.72
Mg	24	45	3	He	43744.916	ug/l	12959712.26
Al	27	45	1	No Gas	512.223	ug/l	5239083.46
Si	28	45	2	H2	22270.107	ug/l	27631985.16
K	39	72	3	He	7302.077	ug/l	3059803.32
Ca	40	72	2	H2	41656.231	ug/l	209035378.01
Ti	47	72	1	No Gas	91.433	ug/l	114450.11
V	51	72	1	No Gas	110.636	ug/l	1644009.66
V	51	72	3	He	121.073	ug/l	369733.32
Cr	52	72	1	No Gas	95.616	ug/l	1392444.11
Cr	52	72	3	He	103.387	ug/l	315641.38
Mn	55	72	1	No Gas	475.805	ug/l	8093013.87
Mn	55	72	3	He	489.950	ug/l	1001234.26
Fe	56	72	2	H2	629.383	ug/l	6252814.47
Fe	56	72	3	He	654.306	ug/l	1743085.87
Co	59	72	1	No Gas	91.217	ug/l	1355658.31
Ni	60	72	1	No Gas	89.419	ug/l	303436.35
Ni	60	72	3	He	105.729	ug/l	114318.40
Cu	63	72	1	No Gas	92.692	ug/l	742266.21
Cu	63	72	3	He	111.096	ug/l	302710.88
Cu	65	72	1	No Gas	93.628	ug/l	347982.74
Zn	66	72	1	No Gas	95.914	ug/l	255945.99
Zn	66	72	3	He	107.079	ug/l	70600.34
As	75	72	1	No Gas	97.546	ug/l	366989.89
As	75	72	3	He	103.503	ug/l	79426.64
Se	78	72	2	H2	100.694	ug/l	42841.07
Br	79	72	1	No Gas	19.169	ug/l	139330.16
Br	79	72	2	H2	19.658	ug/l	97251.39
Se	82	72	1	No Gas	95.336	ug/l	18694.02
Kr	84	72	1	No Gas		ug/l	63396.88
Sr	88	72	1	No Gas	381.378	ug/l	6883230.12
Sr	88	72	3	He	388.514	ug/l	1086096.47
Mo	95	115	1	No Gas	98.228	ug/l	328913.63
Mo	95	115	3	He	107.506	ug/l	148022.00
Mo	98	115	1	No Gas	98.817	ug/l	520738.52
Ag	107	115	1	No Gas	9.416	ug/l	77135.25
Ag	109	115	1	No Gas	9.514	ug/l	72739.12
Cd	111	115	1	No Gas	50.590	ug/l	83608.17

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	53.306	ug/l	35676.01
Cd	114	115	1	No Gas	50.636	ug/l	183852.79
Cd	114	115	3	He	53.839	ug/l	84644.11
Sn	118	115	1	No Gas	101.492	ug/l	448761.71
Sn	118	115	3	He	108.350	ug/l	165423.23
Sb	121	115	1	No Gas	100.415	ug/l	760875.16
Sb	121	115	3	He	104.880	ug/l	266608.97
Sb	123	115	1	No Gas	104.310	ug/l	589780.23
Sb	123	115	3	He	106.714	ug/l	210401.46
Ba	135	115	1	No Gas	107.200	ug/l	138944.46
Ba	137	115	1	No Gas	107.513	ug/l	238579.92
La	139	115	3	He	2090180.301	ug/l	851072.58
Ce	140	115	3	He	549.860	ug/l	900749.40
Hg	201	209	1	No Gas	0.704	ug/l	89.31
Hg	202	209	1	No Gas	13.932	ug/l	3535.10
Hg	202	209	3	He	10.997	ug/l	1743.77
Tl	203	209	3	He	98.352	ug/l	205871.66
Tl	205	209	1	No Gas	98.607	ug/l	750467.22
Tl	205	209	3	He	98.435	ug/l	492063.68
[Pb]	206	209	1	No Gas	101.518	ug/l	260947.33
[Pb]	207	209	1	No Gas	101.647	ug/l	219311.21
Pb	208	209	1	No Gas	101.840	ug/l	1028750.45
Th	232	209	3	He	99.347	ug/l	602942.55
U	238	209	1	No Gas	100.347	ug/l	865699.23

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2237370.89	83.2
Sc	45	2	H2	1255779.63	78.8
Sc	45	3	He	176002.02	77.9
Ge	72	1	No Gas	592320.36	90.8
Ge	72	2	H2	483031.64	86.9
Ge	72	3	He	105953.94	84.4
In	115	1	No Gas	2591635.40	84.3
In	115	3	He	805326.71	84.1
Tb	159	1	No Gas	2448947.25	91.9
Tb	159	3	He	1403048.26	92.9
Ho	165	1	No Gas	2207929.08	91.7
Ho	165	3	He	1293900.70	93.1
Lu	175	1	No Gas	2118238.19	94.5
Lu	175	3	He	1019977.76	93.7
Bi	209	1	No Gas	1315137.68	92.0
Bi	209	3	He	843048.28	97.1

ICPMS207-B Analytical Data

Sample Name	B22010507-001BMSD4
File Name	058MSD4.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 17:54:50
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	105.312	ug/l	455004.06
Be	9	45	1	No Gas	49.955	ug/l	100672.49
B	11	45	1	No Gas	208.872	ug/l	283096.81
Na	23	45	3	He	106172.529	ug/l	57053296.93
Mg	24	45	3	He	45026.028	ug/l	13287221.31
Al	27	45	1	No Gas	515.752	ug/l	5218376.80
Si	28	45	2	H2	24139.046	ug/l	30136318.83
K	39	72	3	He	7222.148	ug/l	3078865.23
Ca	40	72	2	H2	41159.492	ug/l	208039759.10
Ti	47	72	1	No Gas	89.693	ug/l	113731.85
V	51	72	1	No Gas	102.133	ug/l	1532580.23
V	51	72	3	He	121.214	ug/l	376395.21
Cr	52	72	1	No Gas	91.841	ug/l	1358219.10
Cr	52	72	3	He	101.751	ug/l	315966.27
Mn	55	72	1	No Gas	466.202	ug/l	8030656.08
Mn	55	72	3	He	486.101	ug/l	1010132.50
Fe	56	72	2	H2	619.404	ug/l	6199026.88
Fe	56	72	3	He	649.005	ug/l	1757729.43
Co	59	72	1	No Gas	89.292	ug/l	1344076.76
Ni	60	72	1	No Gas	88.596	ug/l	304542.49
Ni	60	72	3	He	104.594	ug/l	115025.03
Cu	63	72	1	No Gas	91.587	ug/l	743037.98
Cu	63	72	3	He	110.171	ug/l	305260.14
Cu	65	72	1	No Gas	93.201	ug/l	350895.01
Zn	66	72	1	No Gas	96.529	ug/l	260915.75
Zn	66	72	3	He	105.920	ug/l	71015.55
As	75	72	1	No Gas	101.659	ug/l	386676.70
As	75	72	3	He	103.093	ug/l	80455.90
Se	78	72	2	H2	100.175	ug/l	42931.32
Br	79	72	1	No Gas	20.653	ug/l	150280.41
Br	79	72	2	H2	21.848	ug/l	107309.47
Se	82	72	1	No Gas	94.655	ug/l	18800.93
Kr	84	72	1	No Gas		ug/l	62203.89
Sr	88	72	1	No Gas	376.957	ug/l	6890726.23
Sr	88	72	3	He	389.626	ug/l	1107339.11
Mo	95	115	1	No Gas	97.011	ug/l	328245.29
Mo	95	115	3	He	107.372	ug/l	150985.21
Mo	98	115	1	No Gas	97.108	ug/l	517127.58
Ag	107	115	1	No Gas	9.259	ug/l	76657.76
Ag	109	115	1	No Gas	9.481	ug/l	73251.61
Cd	111	115	1	No Gas	50.373	ug/l	84131.74

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.449	ug/l	35847.45
Cd	114	115	1	No Gas	49.713	ug/l	182400.63
Cd	114	115	3	He	53.178	ug/l	85386.10
Sn	118	115	1	No Gas	104.816	ug/l	468350.67
Sn	118	115	3	He	109.228	ug/l	170330.10
Sb	121	115	1	No Gas	99.645	ug/l	762989.40
Sb	121	115	3	He	103.936	ug/l	269820.01
Sb	123	115	1	No Gas	103.347	ug/l	590518.89
Sb	123	115	3	He	105.918	ug/l	213260.01
Ba	135	115	1	No Gas	107.293	ug/l	140528.40
Ba	137	115	1	No Gas	105.537	ug/l	236679.05
La	139	115	3	He	2111004.972	ug/l	877803.29
Ce	140	115	3	He	542.766	ug/l	908142.18
Hg	201	209	1	No Gas	0.664	ug/l	84.65
Hg	202	209	1	No Gas	13.339	ug/l	3382.43
Hg	202	209	3	He	11.277	ug/l	1777.10
Tl	203	209	3	He	99.993	ug/l	208101.87
Tl	205	209	1	No Gas	100.258	ug/l	762179.66
Tl	205	209	3	He	100.322	ug/l	498665.46
[Pb]	206	209	1	No Gas	102.728	ug/l	263824.09
[Pb]	207	209	1	No Gas	104.484	ug/l	225094.15
Pb	208	209	1	No Gas	104.682	ug/l	1056382.12
Th	232	209	3	He	101.070	ug/l	609892.89
U	238	209	1	No Gas	99.595	ug/l	858331.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2213216.93	82.3
Sc	45	2	H2	1263834.82	79.3
Sc	45	3	He	175361.13	77.6
Ge	72	1	No Gas	599919.15	92.0
Ge	72	2	H2	486613.11	87.5
Ge	72	3	He	107792.11	85.9
In	115	1	No Gas	2619369.45	85.2
In	115	3	He	822356.42	85.9
Tb	159	1	No Gas	2525091.56	94.7
Tb	159	3	He	1412654.02	93.6
Ho	165	1	No Gas	2275265.81	94.5
Ho	165	3	He	1312775.65	94.4
Lu	175	1	No Gas	2114849.46	94.3
Lu	175	3	He	1043142.40	95.8
Bi	209	1	No Gas	1313182.28	91.9
Bi	209	3	He	838245.92	96.6

ICPMS207-B Analytical Data

Sample Name	Rinse
File Name	059BLKV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:01:05
Sample Type	BlkVrfy
Total Dilution	1.0000
Comment	ICPMS-200.8-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	0.451	ug/l	13461.37
Be	9	45	1	No Gas	-0.068	ug/l	90.32
B	11	45	1	No Gas	2.312	ug/l	5764.75
Na	23	45	3	He	37.639	ug/l	74379.26
Mg	24	45	3	He	5.065	ug/l	3104.18
Al	27	45	1	No Gas	3.639	ug/l	52903.16
Si	28	45	2	H2	20.129	ug/l	57617.99
K	39	72	3	He	-15.338	ug/l	144680.24
Ca	40	72	2	H2	-1.056	ug/l	215652.39
Ti	47	72	1	No Gas	-0.258	ug/l	306.98
V	51	72	1	No Gas	2.332	ug/l	-18972.33
V	51	72	3	He	-0.294	ug/l	28493.09
Cr	52	72	1	No Gas	-0.361	ug/l	90754.50
Cr	52	72	3	He	-0.206	ug/l	4022.89
Mn	55	72	1	No Gas	0.468	ug/l	18788.04
Mn	55	72	3	He	0.007	ug/l	346.27
Fe	56	72	2	H2	0.029	ug/l	20451.46
Fe	56	72	3	He	-0.194	ug/l	17668.36
Co	59	72	1	No Gas	-0.014	ug/l	502.35
Ni	60	72	1	No Gas	0.032	ug/l	944.83
Ni	60	72	3	He	0.051	ug/l	344.45
Cu	63	72	1	No Gas	0.094	ug/l	2739.36
Cu	63	72	3	He	0.108	ug/l	895.52
Cu	65	72	1	No Gas	0.101	ug/l	1086.48
Zn	66	72	1	No Gas	0.345	ug/l	1808.26
Zn	66	72	3	He	0.265	ug/l	373.34
As	75	72	1	No Gas	0.180	ug/l	19723.77
As	75	72	3	He	-0.043	ug/l	1069.09
Se	78	72	2	H2	0.012	ug/l	49.67
Br	79	72	1	No Gas	3.287	ug/l	46786.38
Br	79	72	2	H2	3.075	ug/l	30111.71
Se	82	72	1	No Gas	-0.353	ug/l	662.75
Kr	84	72	1	No Gas		ug/l	17073.04
Sr	88	72	1	No Gas	0.006	ug/l	355.96
Sr	88	72	3	He	-0.002	ug/l	108.89
Mo	95	115	1	No Gas	0.018	ug/l	93.33
Mo	95	115	3	He	0.021	ug/l	42.22
Mo	98	115	1	No Gas	0.017	ug/l	143.76
Ag	107	115	1	No Gas	-0.004	ug/l	628.94
Ag	109	115	1	No Gas	0.000	ug/l	602.92
Cd	111	115	1	No Gas	0.009	ug/l	29.66

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.009	ug/l	14.78
Cd	114	115	1	No Gas	0.010	ug/l	2.80
Cd	114	115	3	He	0.010	ug/l	32.53
Sn	118	115	1	No Gas	1.722	ug/l	10193.55
Sn	118	115	3	He	1.864	ug/l	3589.37
Sb	121	115	1	No Gas	0.195	ug/l	1890.99
Sb	121	115	3	He	0.181	ug/l	584.41
Sb	123	115	1	No Gas	0.195	ug/l	1410.88
Sb	123	115	3	He	0.183	ug/l	452.72
Ba	135	115	1	No Gas	0.032	ug/l	66.53
Ba	137	115	1	No Gas	0.022	ug/l	109.78
La	139	115	3	He	5.601	ug/l	13.33
Ce	140	115	3	He	0.013	ug/l	31.11
Hg	201	209	1	No Gas	0.032	ug/l	14.67
Hg	202	209	1	No Gas	0.019	ug/l	26.66
Hg	202	209	3	He	0.028	ug/l	9.33
Tl	203	209	3	He	0.702	ug/l	1666.78
Tl	205	209	1	No Gas	0.557	ug/l	5286.71
Tl	205	209	3	He	0.687	ug/l	3888.81
[Pb]	206	209	1	No Gas	0.002	ug/l	136.67
[Pb]	207	209	1	No Gas	0.004	ug/l	108.89
Pb	208	209	1	No Gas	0.005	ug/l	508.90
Th	232	209	3	He	0.030	ug/l	240.10
U	238	209	1	No Gas	0.003	ug/l	53.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2617476.05	97.3
Sc	45	2	H2	1452912.53	91.1
Sc	45	3	He	202751.46	89.7
Ge	72	1	No Gas	663857.56	101.8
Ge	72	2	H2	537981.55	96.7
Ge	72	3	He	119283.90	95.0
In	115	1	No Gas	3127251.22	101.7
In	115	3	He	921606.66	96.2
Tb	159	1	No Gas	2831475.83	106.2
Tb	159	3	He	1535648.20	101.7
Ho	165	1	No Gas	2530253.47	105.1
Ho	165	3	He	1413379.80	101.7
Lu	175	1	No Gas	2378049.63	106.1
Lu	175	3	He	1118053.17	102.7
Bi	209	1	No Gas	1538808.96	107.7
Bi	209	3	He	908587.19	104.7

ICPMS207-B Analytical Data

Sample Name	B22010625-001A
File Name	060SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:07:18
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	6.124	ug/l	47272.71
Be	9	45	1	No Gas	-0.095	ug/l	29.33
B	11	45	1	No Gas	100.416	ug/l	183002.90
Na	23	45	3	He	109058.356	ug/l	77121978.85
Mg	24	45	3	He	26387.744	ug/l	10249207.37
Al	27	45	1	No Gas	1.368	ug/l	29103.85
Si	28	45	2	H2	22633.654	ug/l	36744655.35
K	39	72	3	He	7547.631	ug/l	3974236.29
Ca	40	72	2	H2	22910.297	ug/l	141113358.39
Ti	47	72	1	No Gas	1.141	ug/l	2385.94
V	51	72	1	No Gas	18.065	ug/l	264742.11
V	51	72	3	He	9.242	ug/l	65895.35
Cr	52	72	1	No Gas	-0.348	ug/l	95997.11
Cr	52	72	3	He	1.711	ug/l	11766.98
Mn	55	72	1	No Gas	0.735	ug/l	25188.21
Mn	55	72	3	He	0.474	ug/l	1585.77
Fe	56	72	2	H2	0.319	ug/l	26044.15
Fe	56	72	3	He	-0.301	ug/l	19407.33
Co	59	72	1	No Gas	0.033	ug/l	1350.72
Ni	60	72	1	No Gas	0.457	ug/l	2701.57
Ni	60	72	3	He	0.320	ug/l	751.13
Cu	63	72	1	No Gas	1.439	ug/l	15605.90
Cu	63	72	3	He	0.982	ug/l	3990.42
Cu	65	72	1	No Gas	1.129	ug/l	5663.38
Zn	66	72	1	No Gas	0.851	ug/l	3501.57
Zn	66	72	3	He	0.930	ug/l	967.82
As	75	72	1	No Gas	2.463	ug/l	30587.13
As	75	72	3	He	2.952	ug/l	4050.88
Se	78	72	2	H2	0.711	ug/l	419.01
Br	79	72	1	No Gas	166.268	ug/l	1234390.77
Br	79	72	2	H2	198.465	ug/l	1047736.36
Se	82	72	1	No Gas	2.992	ug/l	1448.02
Kr	84	72	1	No Gas		ug/l	57200.20
Sr	88	72	1	No Gas	289.129	ug/l	6174469.61
Sr	88	72	3	He	271.476	ug/l	954895.46
Mo	95	115	1	No Gas	10.369	ug/l	45339.52
Mo	95	115	3	He	11.442	ug/l	19473.31
Mo	98	115	1	No Gas	10.321	ug/l	71037.05
Ag	107	115	1	No Gas	-0.064	ug/l	48.02
Ag	109	115	1	No Gas	-0.060	ug/l	50.02
Cd	111	115	1	No Gas	0.042	ug/l	101.95

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.041	ug/l	42.78
Cd	114	115	1	No Gas	0.048	ug/l	184.11
Cd	114	115	3	He	0.040	ug/l	92.25
Sn	118	115	1	No Gas	0.218	ug/l	2368.85
Sn	118	115	3	He	0.271	ug/l	875.59
Sb	121	115	1	No Gas	0.388	ug/l	3951.62
Sb	121	115	3	He	0.414	ug/l	1363.21
Sb	123	115	1	No Gas	0.396	ug/l	3015.30
Sb	123	115	3	He	0.411	ug/l	1044.81
Ba	135	115	1	No Gas	25.165	ug/l	42604.19
Ba	137	115	1	No Gas	24.906	ug/l	72193.47
La	139	115	3	He	7.971	ug/l	15.56
Ce	140	115	3	He	0.009	ug/l	26.67
Hg	201	209	1	No Gas	0.277	ug/l	50.66
Hg	202	209	1	No Gas	5.671	ug/l	1814.43
Hg	202	209	3	He	4.978	ug/l	874.85
Tl	203	209	3	He	0.351	ug/l	895.72
Tl	205	209	1	No Gas	0.232	ug/l	2550.28
Tl	205	209	3	He	0.362	ug/l	2185.73
[Pb]	206	209	1	No Gas	0.035	ug/l	250.00
[Pb]	207	209	1	No Gas	0.040	ug/l	212.22
Pb	208	209	1	No Gas	0.038	ug/l	968.90
Th	232	209	3	He	0.022	ug/l	190.08
U	238	209	1	No Gas	0.372	ug/l	4039.83

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2956723.89	109.9
Sc	45	2	H2	1643145.07	103.0
Sc	45	3	He	230730.43	102.1
Ge	72	1	No Gas	700813.60	107.4
Ge	72	2	H2	592433.47	106.5
Ge	72	3	He	133375.18	106.2
In	115	1	No Gas	3383987.41	110.0
In	115	3	He	995102.45	103.9
Tb	159	1	No Gas	3143145.72	117.9
Tb	159	3	He	1624929.48	107.6
Ho	165	1	No Gas	2830569.95	117.6
Ho	165	3	He	1506259.54	108.3
Lu	175	1	No Gas	2672263.26	119.2
Lu	175	3	He	1229394.12	112.9
Bi	209	1	No Gas	1645575.46	115.2
Bi	209	3	He	931620.55	107.3

ICPMS207-B Analytical Data

Sample Name	B22010625-001B
File Name	061SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:13:32
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	7.537	ug/l	40726.62
Be	9	45	1	No Gas	-0.088	ug/l	33.66
B	11	45	1	No Gas	120.071	ug/l	160942.35
Na	23	45	3	He	115531.767	ug/l	59716688.55
Mg	24	45	3	He	27027.854	ug/l	7674152.47
Al	27	45	1	No Gas	6.341	ug/l	70909.20
Si	28	45	2	H2	23405.520	ug/l	28438374.03
K	39	72	3	He	7367.378	ug/l	2995146.62
Ca	40	72	2	H2	22349.522	ug/l	108447494.51
Ti	47	72	1	No Gas	1.509	ug/l	2427.65
V	51	72	1	No Gas	14.819	ug/l	170709.93
V	51	72	3	He	23.694	ug/l	90642.35
Cr	52	72	1	No Gas	6.717	ug/l	174262.73
Cr	52	72	3	He	2.391	ug/l	11061.98
Mn	55	72	1	No Gas	2.547	ug/l	51077.04
Mn	55	72	3	He	0.892	ug/l	2052.07
Fe	56	72	2	H2	3.262	ug/l	48685.79
Fe	56	72	3	He	3.447	ug/l	24563.52
Co	59	72	1	No Gas	0.118	ug/l	2365.52
Ni	60	72	1	No Gas	0.916	ug/l	3759.71
Ni	60	72	3	He	0.463	ug/l	727.80
Cu	63	72	1	No Gas	1.848	ug/l	16140.08
Cu	63	72	3	He	1.486	ug/l	4410.79
Cu	65	72	1	No Gas	1.440	ug/l	5826.18
Zn	66	72	1	No Gas	0.959	ug/l	3182.54
Zn	66	72	3	He	0.933	ug/l	748.91
As	75	72	1	No Gas	7.568	ug/l	43317.59
As	75	72	3	He	5.078	ug/l	4688.32
Se	78	72	2	H2	0.859	ug/l	390.56
Br	79	72	1	No Gas	24.567	ug/l	169229.17
Br	79	72	2	H2	22.740	ug/l	106572.39
Se	82	72	1	No Gas	0.909	ug/l	814.75
Kr	84	72	1	No Gas		ug/l	46482.93
Sr	88	72	1	No Gas	267.269	ug/l	4730907.11
Sr	88	72	3	He	269.539	ug/l	731330.22
Mo	95	115	1	No Gas	11.863	ug/l	38096.31
Mo	95	115	3	He	13.114	ug/l	17436.25
Mo	98	115	1	No Gas	11.815	ug/l	59709.74
Ag	107	115	1	No Gas	-0.061	ug/l	54.02
Ag	109	115	1	No Gas	-0.059	ug/l	47.35
Cd	111	115	1	No Gas	0.019	ug/l	38.33

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.010	ug/l	13.44
Cd	114	115	1	No Gas	0.025	ug/l	53.71
Cd	114	115	3	He	0.008	ug/l	23.89
Sn	118	115	1	No Gas	0.689	ug/l	3729.78
Sn	118	115	3	He	0.760	ug/l	1403.41
Sb	121	115	1	No Gas	0.482	ug/l	3585.49
Sb	121	115	3	He	0.515	ug/l	1312.19
Sb	123	115	1	No Gas	0.493	ug/l	2736.88
Sb	123	115	3	He	0.510	ug/l	1003.81
Ba	135	115	1	No Gas	27.675	ug/l	34404.42
Ba	137	115	1	No Gas	26.781	ug/l	56996.82
La	139	115	3	He	73.390	ug/l	37.78
Ce	140	115	3	He	0.040	ug/l	70.00
Hg	201	209	1	No Gas	0.351	ug/l	45.99
Hg	202	209	1	No Gas	7.258	ug/l	1740.77
Hg	202	209	3	He	6.009	ug/l	890.85
Tl	203	209	3	He	0.201	ug/l	463.53
Tl	205	209	1	No Gas	0.122	ug/l	1128.95
Tl	205	209	3	He	0.189	ug/l	1041.13
[Pb]	206	209	1	No Gas	0.036	ug/l	192.23
[Pb]	207	209	1	No Gas	0.048	ug/l	176.67
Pb	208	209	1	No Gas	0.041	ug/l	752.24
Th	232	209	3	He	0.060	ug/l	379.49
U	238	209	1	No Gas	0.384	ug/l	3138.42

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2179076.07	81.0
Sc	45	2	H2	1229839.60	77.1
Sc	45	3	He	168676.76	74.6
Ge	72	1	No Gas	580896.39	89.0
Ge	72	2	H2	466663.96	83.9
Ge	72	3	He	102833.67	81.9
In	115	1	No Gas	2484963.86	80.8
In	115	3	He	777253.66	81.2
Tb	159	1	No Gas	2328099.92	87.3
Tb	159	3	He	1325901.73	87.8
Ho	165	1	No Gas	2039575.91	84.7
Ho	165	3	He	1232063.28	88.6
Lu	175	1	No Gas	1968856.79	87.8
Lu	175	3	He	963853.43	88.5
Bi	209	1	No Gas	1237059.01	86.6
Bi	209	3	He	786575.60	90.6

ICPMS207-B Analytical Data

Sample Name	B22010626-001A
File Name	062SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:19:46
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	-0.310	ug/l	11013.74
Be	9	45	1	No Gas	-0.093	ug/l	34.32
B	11	45	1	No Gas	43.619	ug/l	81572.47
Na	23	45	3	He	31878.362	ug/l	22381447.72
Mg	24	45	3	He	9822.606	ug/l	3782469.43
Al	27	45	1	No Gas	3.522	ug/l	58704.45
Si	28	45	2	H2	21890.709	ug/l	36092004.30
K	39	72	3	He	2231.751	ug/l	1307962.85
Ca	40	72	2	H2	10032.525	ug/l	61781233.64
Ti	47	72	1	No Gas	1.114	ug/l	2344.34
V	51	72	1	No Gas	19.929	ug/l	298660.62
V	51	72	3	He	9.181	ug/l	66368.85
Cr	52	72	1	No Gas	-0.846	ug/l	87913.02
Cr	52	72	3	He	1.630	ug/l	11575.72
Mn	55	72	1	No Gas	0.347	ug/l	17395.84
Mn	55	72	3	He	0.075	ug/l	566.23
Fe	56	72	2	H2	1.421	ug/l	39335.21
Fe	56	72	3	He	0.638	ug/l	22752.13
Co	59	72	1	No Gas	0.008	ug/l	921.54
Ni	60	72	1	No Gas	0.523	ug/l	2961.11
Ni	60	72	3	He	0.499	ug/l	1002.26
Cu	63	72	1	No Gas	0.546	ug/l	7156.63
Cu	63	72	3	He	0.390	ug/l	1988.41
Cu	65	72	1	No Gas	0.474	ug/l	2786.72
Zn	66	72	1	No Gas	8.535	ug/l	27689.56
Zn	66	72	3	He	8.260	ug/l	7112.88
As	75	72	1	No Gas	-1.982	ug/l	11709.33
As	75	72	3	He	-0.815	ug/l	463.47
Se	78	72	2	H2	0.097	ug/l	98.45
Br	79	72	1	No Gas	11.342	ug/l	107953.26
Br	79	72	2	H2	11.284	ug/l	75603.49
Se	82	72	1	No Gas	0.057	ug/l	791.95
Kr	84	72	1	No Gas		ug/l	28841.74
Sr	88	72	1	No Gas	71.973	ug/l	1536764.50
Sr	88	72	3	He	65.675	ug/l	233554.71
Mo	95	115	1	No Gas	0.117	ug/l	553.37
Mo	95	115	3	He	0.120	ug/l	218.89
Mo	98	115	1	No Gas	0.138	ug/l	1022.64
Ag	107	115	1	No Gas	-0.062	ug/l	64.69
Ag	109	115	1	No Gas	-0.059	ug/l	62.69
Cd	111	115	1	No Gas	0.021	ug/l	58.58

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.026	ug/l	31.22
Cd	114	115	1	No Gas	0.038	ug/l	142.43
Cd	114	115	3	He	0.030	ug/l	75.63
Sn	118	115	1	No Gas	-0.039	ug/l	918.21
Sn	118	115	3	He	-0.004	ug/l	367.79
Sb	121	115	1	No Gas	0.198	ug/l	2152.72
Sb	121	115	3	He	0.207	ug/l	730.09
Sb	123	115	1	No Gas	0.200	ug/l	1622.93
Sb	123	115	3	He	0.207	ug/l	561.40
Ba	135	115	1	No Gas	3.404	ug/l	5989.44
Ba	137	115	1	No Gas	3.303	ug/l	9970.48
La	139	115	3	He	9.357	ug/l	16.67
Ce	140	115	3	He	0.006	ug/l	20.00
Hg	201	209	1	No Gas	0.027	ug/l	15.33
Hg	202	209	1	No Gas	0.004	ug/l	24.00
Hg	202	209	3	He	0.037	ug/l	11.67
Tl	203	209	3	He	0.162	ug/l	478.20
Tl	205	209	1	No Gas	0.111	ug/l	1414.53
Tl	205	209	3	He	0.172	ug/l	1180.53
[Pb]	206	209	1	No Gas	0.016	ug/l	195.56
[Pb]	207	209	1	No Gas	0.013	ug/l	142.22
Pb	208	209	1	No Gas	0.019	ug/l	742.24
Th	232	209	3	He	-0.001	ug/l	38.68
U	238	209	1	No Gas	0.018	ug/l	226.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2983824.33	110.9
Sc	45	2	H2	1668563.55	104.6
Sc	45	3	He	228686.55	101.2
Ge	72	1	No Gas	700536.58	107.4
Ge	72	2	H2	590973.11	106.3
Ge	72	3	He	134750.05	107.3
In	115	1	No Gas	3507260.77	114.0
In	115	3	He	1022137.75	106.7
Tb	159	1	No Gas	3207965.14	120.4
Tb	159	3	He	1684585.50	111.6
Ho	165	1	No Gas	2894764.56	120.2
Ho	165	3	He	1534483.32	110.4
Lu	175	1	No Gas	2708107.78	120.8
Lu	175	3	He	1253814.17	115.1
Bi	209	1	No Gas	1682373.05	117.7
Bi	209	3	He	968675.34	111.6

ICPMS207-B Analytical Data

Sample Name	B22010626-001B
File Name	063SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:25:59
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	0.438	ug/l	10702.72
Be	9	45	1	No Gas	-0.082	ug/l	44.99
B	11	45	1	No Gas	51.825	ug/l	67587.46
Na	23	45	3	He	33628.692	ug/l	16434233.09
Mg	24	45	3	He	10401.976	ug/l	2788185.24
Al	27	45	1	No Gas	778.819	ug/l	7437326.56
Si	28	45	2	H2	22939.879	ug/l	26672032.86
K	39	72	3	He	1968.753	ug/l	861330.82
Ca	40	72	2	H2	9778.928	ug/l	46425895.51
Ti	47	72	1	No Gas	57.417	ug/l	69537.84
V	51	72	1	No Gas	16.756	ug/l	196329.08
V	51	72	3	He	26.193	ug/l	93721.73
Cr	52	72	1	No Gas	7.979	ug/l	187964.54
Cr	52	72	3	He	3.701	ug/l	14312.55
Mn	55	72	1	No Gas	9.411	ug/l	162700.40
Mn	55	72	3	He	8.359	ug/l	16200.67
Fe	56	72	2	H2	686.570	ug/l	6431730.26
Fe	56	72	3	He	703.667	ug/l	1747442.88
Co	59	72	1	No Gas	0.418	ug/l	6625.05
Ni	60	72	1	No Gas	1.717	ug/l	6312.21
Ni	60	72	3	He	1.989	ug/l	2235.74
Cu	63	72	1	No Gas	2.961	ug/l	24445.52
Cu	63	72	3	He	3.483	ug/l	9304.10
Cu	65	72	1	No Gas	2.828	ug/l	10694.88
Zn	66	72	1	No Gas	20.046	ug/l	52107.06
Zn	66	72	3	He	23.578	ug/l	14615.17
As	75	72	1	No Gas	1.571	ug/l	21845.05
As	75	72	3	He	1.176	ug/l	1747.60
Se	78	72	2	H2	0.189	ug/l	112.89
Br	79	72	1	No Gas	12.700	ug/l	96030.41
Br	79	72	2	H2	13.797	ug/l	68308.79
Se	82	72	1	No Gas	0.493	ug/l	725.28
Kr	84	72	1	No Gas		ug/l	23166.04
Sr	88	72	1	No Gas	66.703	ug/l	1161281.53
Sr	88	72	3	He	69.257	ug/l	180666.63
Mo	95	115	1	No Gas	0.201	ug/l	648.91
Mo	95	115	3	He	0.245	ug/l	320.01
Mo	98	115	1	No Gas	0.191	ug/l	973.58
Ag	107	115	1	No Gas	-0.019	ug/l	374.82
Ag	109	115	1	No Gas	-0.013	ug/l	370.82
Cd	111	115	1	No Gas	0.010	ug/l	24.07

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.005	ug/l	9.89
Cd	114	115	1	No Gas	0.011	ug/l	3.64
Cd	114	115	3	He	0.005	ug/l	18.96
Sn	118	115	1	No Gas	0.902	ug/l	4538.41
Sn	118	115	3	He	0.907	ug/l	1561.21
Sb	121	115	1	No Gas	0.678	ug/l	4912.35
Sb	121	115	3	He	0.760	ug/l	1842.64
Sb	123	115	1	No Gas	0.698	ug/l	3768.89
Sb	123	115	3	He	0.758	ug/l	1420.55
Ba	135	115	1	No Gas	5.233	ug/l	6382.17
Ba	137	115	1	No Gas	5.322	ug/l	11129.12
La	139	115	3	He	4844.024	ug/l	1842.36
Ce	140	115	3	He	2.730	ug/l	4163.98
Hg	201	209	1	No Gas	-0.004	ug/l	7.67
Hg	202	209	1	No Gas	0.125	ug/l	45.32
Hg	202	209	3	He	0.092	ug/l	17.67
Tl	203	209	3	He	0.122	ug/l	314.80
Tl	205	209	1	No Gas	0.081	ug/l	815.59
Tl	205	209	3	He	0.111	ug/l	684.96
[Pb]	206	209	1	No Gas	0.109	ug/l	357.79
[Pb]	207	209	1	No Gas	0.132	ug/l	336.67
Pb	208	209	1	No Gas	0.121	ug/l	1466.71
Th	232	209	3	He	0.046	ug/l	304.79
U	238	209	1	No Gas	0.023	ug/l	199.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2090242.64	77.7
Sc	45	2	H2	1176712.30	73.8
Sc	45	3	He	159230.86	70.4
Ge	72	1	No Gas	571176.24	87.6
Ge	72	2	H2	455591.54	81.9
Ge	72	3	He	98823.45	78.7
In	115	1	No Gas	2433662.89	79.1
In	115	3	He	748586.21	78.2
Tb	159	1	No Gas	2298730.71	86.2
Tb	159	3	He	1325966.88	87.8
Ho	165	1	No Gas	2064587.49	85.8
Ho	165	3	He	1225942.23	88.2
Lu	175	1	No Gas	1953388.17	87.1
Lu	175	3	He	960491.00	88.2
Bi	209	1	No Gas	1202781.64	84.2
Bi	209	3	He	797600.39	91.9

ICPMS207-B Analytical Data

Sample Name	B22010628-001A
File Name	064SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:32:14
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	-0.436	ug/l	10033.34
Be	9	45	1	No Gas	-0.098	ug/l	20.00
B	11	45	1	No Gas	46.157	ug/l	83991.41
Na	23	45	3	He	40165.610	ug/l	27128988.21
Mg	24	45	3	He	18570.388	ug/l	6881147.99
Al	27	45	1	No Gas	3.693	ug/l	59459.31
Si	28	45	2	H2	26900.464	ug/l	42496147.81
K	39	72	3	He	3693.289	ug/l	1975274.17
Ca	40	72	2	H2	15598.460	ug/l	93869243.44
Ti	47	72	1	No Gas	1.194	ug/l	2375.92
V	51	72	1	No Gas	11.151	ug/l	134423.47
V	51	72	3	He	1.358	ug/l	36705.68
Cr	52	72	1	No Gas	-0.671	ug/l	87604.86
Cr	52	72	3	He	0.521	ug/l	7051.72
Mn	55	72	1	No Gas	8.756	ug/l	179962.99
Mn	55	72	3	He	8.172	ug/l	20784.83
Fe	56	72	2	H2	0.087	ug/l	22670.22
Fe	56	72	3	He	-0.680	ug/l	17639.93
Co	59	72	1	No Gas	0.028	ug/l	1214.31
Ni	60	72	1	No Gas	1.073	ug/l	4984.30
Ni	60	72	3	He	1.135	ug/l	1805.68
Cu	63	72	1	No Gas	0.908	ug/l	10215.00
Cu	63	72	3	He	0.769	ug/l	3171.38
Cu	65	72	1	No Gas	0.816	ug/l	4138.92
Zn	66	72	1	No Gas	2.547	ug/l	8536.24
Zn	66	72	3	He	2.512	ug/l	2215.74
As	75	72	1	No Gas	-2.408	ug/l	9565.26
As	75	72	3	He	-0.841	ug/l	421.93
Se	78	72	2	H2	0.191	ug/l	144.11
Br	79	72	1	No Gas	13.250	ug/l	117615.22
Br	79	72	2	H2	13.553	ug/l	85481.49
Se	82	72	1	No Gas	-0.416	ug/l	662.61
Kr	84	72	1	No Gas		ug/l	43515.97
Sr	88	72	1	No Gas	187.230	ug/l	3859184.41
Sr	88	72	3	He	171.457	ug/l	586569.31
Mo	95	115	1	No Gas	0.521	ug/l	2273.53
Mo	95	115	3	He	0.584	ug/l	983.37
Mo	98	115	1	No Gas	0.520	ug/l	3569.50
Ag	107	115	1	No Gas	-0.061	ug/l	72.70
Ag	109	115	1	No Gas	-0.058	ug/l	71.36
Cd	111	115	1	No Gas	0.098	ug/l	221.40

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.098	ug/l	88.55
Cd	114	115	1	No Gas	0.108	ug/l	459.58
Cd	114	115	3	He	0.105	ug/l	214.59
Sn	118	115	1	No Gas	-0.092	ug/l	575.54
Sn	118	115	3	He	-0.097	ug/l	180.00
Sb	121	115	1	No Gas	0.077	ug/l	866.11
Sb	121	115	3	He	0.074	ug/l	288.70
Sb	123	115	1	No Gas	0.077	ug/l	650.08
Sb	123	115	3	He	0.077	ug/l	226.36
Ba	135	115	1	No Gas	5.150	ug/l	8628.91
Ba	137	115	1	No Gas	5.214	ug/l	14981.82
La	139	115	3	He	8.632	ug/l	15.55
Ce	140	115	3	He	0.014	ug/l	35.55
Hg	201	209	1	No Gas	0.011	ug/l	12.33
Hg	202	209	1	No Gas	0.000	ug/l	22.00
Hg	202	209	3	He	0.029	ug/l	9.67
Tl	203	209	3	He	0.133	ug/l	390.83
Tl	205	209	1	No Gas	0.074	ug/l	1026.71
Tl	205	209	3	He	0.117	ug/l	827.69
[Pb]	206	209	1	No Gas	-0.006	ug/l	117.78
[Pb]	207	209	1	No Gas	0.007	ug/l	121.11
Pb	208	209	1	No Gas	0.008	ug/l	566.67
Th	232	209	3	He	0.000	ug/l	45.35
U	238	209	1	No Gas	0.011	ug/l	141.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2908510.35	108.1
Sc	45	2	H2	1599116.76	100.3
Sc	45	3	He	220112.69	97.4
Ge	72	1	No Gas	676429.00	103.7
Ge	72	2	H2	578329.08	104.0
Ge	72	3	He	129644.94	103.3
In	115	1	No Gas	3343790.96	108.7
In	115	3	He	976070.68	101.9
Tb	159	1	No Gas	3113947.56	116.8
Tb	159	3	He	1643757.79	108.9
Ho	165	1	No Gas	2808062.31	116.6
Ho	165	3	He	1482645.78	106.6
Lu	175	1	No Gas	2647124.76	118.1
Lu	175	3	He	1199919.22	110.2
Bi	209	1	No Gas	1615068.40	113.0
Bi	209	3	He	928484.74	107.0

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	065_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:38:28
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	669.063	ug/l	3053681.80
Be	9	45	1	No Gas	52.073	ug/l	112815.55
B	11	45	1	No Gas	56.720	ug/l	84022.92
Na	23	45	3	He	13750.381	ug/l	7909112.73
Mg	24	45	3	He	13284.379	ug/l	4176331.09
Al	27	45	1	No Gas	49.556	ug/l	546827.69
Si	28	45	2	H2	199.561	ug/l	291757.95
K	39	72	3	He	11504.560	ug/l	5035580.86
Ca	40	72	2	H2	11487.090	ug/l	60716681.63
Ti	47	72	1	No Gas	48.778	ug/l	62550.09
V	51	72	1	No Gas	50.315	ug/l	732716.27
V	51	72	3	He	53.869	ug/l	190058.86
Cr	52	72	1	No Gas	50.036	ug/l	784907.73
Cr	52	72	3	He	53.231	ug/l	174704.12
Mn	55	72	1	No Gas	52.243	ug/l	914037.35
Mn	55	72	3	He	51.247	ug/l	111451.61
Fe	56	72	2	H2	1280.582	ug/l	13348786.23
Fe	56	72	3	He	1315.946	ug/l	3703965.21
Co	59	72	1	No Gas	49.742	ug/l	754060.23
Ni	60	72	1	No Gas	48.339	ug/l	167648.11
Ni	60	72	3	He	55.150	ug/l	63426.94
Cu	63	72	1	No Gas	50.305	ug/l	411661.46
Cu	63	72	3	He	57.962	ug/l	167902.91
Cu	65	72	1	No Gas	51.297	ug/l	194745.83
Zn	66	72	1	No Gas	52.581	ug/l	143388.91
Zn	66	72	3	He	55.482	ug/l	38915.27
As	75	72	1	No Gas	53.675	ug/l	213680.10
As	75	72	3	He	52.454	ug/l	43243.86
Se	78	72	2	H2	52.584	ug/l	23525.41
Br	79	72	1	No Gas	1.016	ug/l	28335.09
Br	79	72	2	H2	0.839	ug/l	18458.50
Se	82	72	1	No Gas	51.313	ug/l	10572.31
Kr	84	72	1	No Gas		ug/l	23639.24
Sr	88	72	1	No Gas	52.358	ug/l	964001.30
Sr	88	72	3	He	51.704	ug/l	153542.95
Mo	95	115	1	No Gas	48.929	ug/l	178332.22
Mo	95	115	3	He	54.087	ug/l	79121.60
Mo	98	115	1	No Gas	47.593	ug/l	273012.47
Ag	107	115	1	No Gas	19.620	ug/l	174232.72
Ag	109	115	1	No Gas	19.510	ug/l	161810.53
Cd	111	115	1	No Gas	51.088	ug/l	91888.98

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	54.873	ug/l	39011.62
Cd	114	115	1	No Gas	51.093	ug/l	201904.58
Cd	114	115	3	He	56.018	ug/l	93562.18
Sn	118	115	1	No Gas	50.791	ug/l	244851.59
Sn	118	115	3	He	53.739	ug/l	87327.58
Sb	121	115	1	No Gas	50.581	ug/l	417136.05
Sb	121	115	3	He	53.930	ug/l	145662.10
Sb	123	115	1	No Gas	50.882	ug/l	313073.01
Sb	123	115	3	He	53.916	ug/l	112948.10
Ba	135	115	1	No Gas	51.312	ug/l	72374.32
Ba	137	115	1	No Gas	52.415	ug/l	126576.20
La	139	115	3	He	41.106	ug/l	27.78
Ce	140	115	3	He	269.634	ug/l	469290.34
Hg	201	209	1	No Gas	4.710	ug/l	582.90
Hg	202	209	1	No Gas	5.058	ug/l	1379.80
Hg	202	209	3	He	5.466	ug/l	898.85
Tl	203	209	3	He	50.918	ug/l	110363.52
Tl	205	209	1	No Gas	49.511	ug/l	401681.85
Tl	205	209	3	He	50.193	ug/l	259846.12
[Pb]	206	209	1	No Gas	50.619	ug/l	138677.96
[Pb]	207	209	1	No Gas	52.042	ug/l	119645.56
Pb	208	209	1	No Gas	51.378	ug/l	553282.78
Th	232	209	3	He	50.134	ug/l	314941.33
U	238	209	1	No Gas	48.877	ug/l	449257.63

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2379320.46	88.4
Sc	45	2	H2	1346069.52	84.4
Sc	45	3	He	186729.67	82.6
Ge	72	1	No Gas	604108.78	92.6
Ge	72	2	H2	507507.29	91.3
Ge	72	3	He	112475.15	89.6
In	115	1	No Gas	2821886.57	91.7
In	115	3	He	855477.35	89.3
Tb	159	1	No Gas	2696084.40	101.2
Tb	159	3	He	1438426.40	95.3
Ho	165	1	No Gas	2344134.15	97.4
Ho	165	3	He	1327827.69	95.5
Lu	175	1	No Gas	2203535.93	98.3
Lu	175	3	He	1058446.14	97.2
Bi	209	1	No Gas	1400812.02	98.0
Bi	209	3	He	872830.19	100.5

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	066_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:44:42
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	-0.598	ug/l	7153.89
Be	9	45	1	No Gas	-0.083	ug/l	46.66
B	11	45	1	No Gas	1.792	ug/l	4296.34
Na	23	45	3	He	34.798	ug/l	63817.71
Mg	24	45	3	He	0.697	ug/l	1417.26
Al	27	45	1	No Gas	0.209	ug/l	10418.09
Si	28	45	2	H2	-10.289	ug/l	12601.70
K	39	72	3	He	-17.027	ug/l	129235.13
Ca	40	72	2	H2	-3.076	ug/l	185203.02
Ti	47	72	1	No Gas	-0.256	ug/l	276.95
V	51	72	1	No Gas	6.096	ug/l	40591.24
V	51	72	3	He	1.638	ug/l	31128.38
Cr	52	72	1	No Gas	0.741	ug/l	96278.32
Cr	52	72	3	He	-0.078	ug/l	4002.79
Mn	55	72	1	No Gas	0.461	ug/l	16676.45
Mn	55	72	3	He	-0.018	ug/l	257.95
Fe	56	72	2	H2	0.213	ug/l	20367.92
Fe	56	72	3	He	0.493	ug/l	17701.74
Co	59	72	1	No Gas	-0.006	ug/l	565.56
Ni	60	72	1	No Gas	-0.042	ug/l	592.17
Ni	60	72	3	He	0.037	ug/l	294.45
Cu	63	72	1	No Gas	-0.022	ug/l	1522.03
Cu	63	72	3	He	0.024	ug/l	573.57
Cu	65	72	1	No Gas	-0.003	ug/l	584.91
Zn	66	72	1	No Gas	-0.034	ug/l	603.56
Zn	66	72	3	He	0.014	ug/l	168.89
As	75	72	1	No Gas	2.731	ug/l	26890.10
As	75	72	3	He	0.051	ug/l	1032.02
Se	78	72	2	H2	0.022	ug/l	49.22
Br	79	72	1	No Gas	0.445	ug/l	24345.68
Br	79	72	2	H2	0.302	ug/l	15430.94
Se	82	72	1	No Gas	-0.300	ug/l	605.55
Kr	84	72	1	No Gas		ug/l	16766.59
Sr	88	72	1	No Gas	0.005	ug/l	289.43
Sr	88	72	3	He	-0.001	ug/l	101.11
Mo	95	115	1	No Gas	0.023	ug/l	103.34
Mo	95	115	3	He	0.021	ug/l	38.89
Mo	98	115	1	No Gas	0.018	ug/l	133.41
Ag	107	115	1	No Gas	-0.004	ug/l	567.57
Ag	109	115	1	No Gas	0.000	ug/l	542.90
Cd	111	115	1	No Gas	-0.003	ug/l	3.57

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	8.22
Cd	114	115	1	No Gas	0.004	ug/l	-20.43
Cd	114	115	3	He	0.003	ug/l	16.90
Sn	118	115	1	No Gas	-0.028	ug/l	791.79
Sn	118	115	3	He	-0.014	ug/l	287.78
Sb	121	115	1	No Gas	0.080	ug/l	760.43
Sb	121	115	3	He	0.069	ug/l	237.36
Sb	123	115	1	No Gas	0.078	ug/l	555.07
Sb	123	115	3	He	0.082	ug/l	204.69
Ba	135	115	1	No Gas	-0.001	ug/l	13.31
Ba	137	115	1	No Gas	-0.005	ug/l	33.27
La	139	115	3	He	-9.868	ug/l	5.55
Ce	140	115	3	He	0.003	ug/l	12.22
Hg	201	209	1	No Gas	0.039	ug/l	13.67
Hg	202	209	1	No Gas	0.024	ug/l	24.66
Hg	202	209	3	He	0.022	ug/l	8.00
Tl	203	209	3	He	0.399	ug/l	939.08
Tl	205	209	1	No Gas	0.336	ug/l	2921.48
Tl	205	209	3	He	0.383	ug/l	2144.37
[Pb]	206	209	1	No Gas	-0.010	ug/l	87.78
[Pb]	207	209	1	No Gas	-0.009	ug/l	65.56
Pb	208	209	1	No Gas	-0.006	ug/l	338.89
Th	232	209	3	He	0.014	ug/l	132.05
U	238	209	1	No Gas	0.002	ug/l	41.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2279241.63	84.7
Sc	45	2	H2	1308653.21	82.1
Sc	45	3	He	178193.53	78.8
Ge	72	1	No Gas	593973.93	91.0
Ge	72	2	H2	487607.25	87.7
Ge	72	3	He	107100.59	85.3
In	115	1	No Gas	2825124.60	91.9
In	115	3	He	844721.49	88.2
Tb	159	1	No Gas	2525063.02	94.7
Tb	159	3	He	1408389.04	93.3
Ho	165	1	No Gas	2282300.29	94.8
Ho	165	3	He	1320819.59	95.0
Lu	175	1	No Gas	2141890.30	95.6
Lu	175	3	He	1039607.49	95.5
Bi	209	1	No Gas	1358829.00	95.1
Bi	209	3	He	866978.13	99.9

ICPMS207-B Analytical Data

Sample Name	B22010628-001B
File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:50:57
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	0.685	ug/l	10802.17
Be	9	45	1	No Gas	-0.074	ug/l	54.66
B	11	45	1	No Gas	53.454	ug/l	64363.61
Na	23	45	3	He	42730.405	ug/l	19006347.91
Mg	24	45	3	He	20248.677	ug/l	4941392.81
Al	27	45	1	No Gas	319.355	ug/l	2820573.71
Si	28	45	2	H2	28116.945	ug/l	30271053.72
K	39	72	3	He	3416.248	ug/l	1296326.82
Ca	40	72	2	H2	15196.290	ug/l	68953002.24
Ti	47	72	1	No Gas	14.366	ug/l	16404.23
V	51	72	1	No Gas	12.126	ug/l	117466.65
V	51	72	3	He	16.461	ug/l	62832.31
Cr	52	72	1	No Gas	6.470	ug/l	154672.18
Cr	52	72	3	He	1.965	ug/l	8721.54
Mn	55	72	1	No Gas	39.331	ug/l	600836.93
Mn	55	72	3	He	39.287	ug/l	69462.27
Fe	56	72	2	H2	205.846	ug/l	1857205.07
Fe	56	72	3	He	214.782	ug/l	502867.94
Co	59	72	1	No Gas	0.506	ug/l	7257.43
Ni	60	72	1	No Gas	2.425	ug/l	7968.23
Ni	60	72	3	He	2.342	ug/l	2394.66
Cu	63	72	1	No Gas	3.839	ug/l	28729.02
Cu	63	72	3	He	4.349	ug/l	10633.74
Cu	65	72	1	No Gas	3.678	ug/l	12643.90
Zn	66	72	1	No Gas	3.570	ug/l	9043.77
Zn	66	72	3	He	3.967	ug/l	2385.77
As	75	72	1	No Gas	1.281	ug/l	19285.10
As	75	72	3	He	0.947	ug/l	1465.78
Se	78	72	2	H2	0.301	ug/l	150.78
Br	79	72	1	No Gas	12.801	ug/l	88949.62
Br	79	72	2	H2	13.356	ug/l	63700.10
Se	82	72	1	No Gas	0.041	ug/l	591.54
Kr	84	72	1	No Gas		ug/l	33502.65
Sr	88	72	1	No Gas	186.926	ug/l	2994839.05
Sr	88	72	3	He	186.760	ug/l	450271.33
Mo	95	115	1	No Gas	0.596	ug/l	1837.91
Mo	95	115	3	He	0.695	ug/l	840.03
Mo	98	115	1	No Gas	0.584	ug/l	2834.96
Ag	107	115	1	No Gas	-0.049	ug/l	145.40
Ag	109	115	1	No Gas	-0.045	ug/l	142.72
Cd	111	115	1	No Gas	0.017	ug/l	34.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.006	ug/l	9.67
Cd	114	115	1	No Gas	0.014	ug/l	14.48
Cd	114	115	3	He	0.010	ug/l	23.77
Sn	118	115	1	No Gas	0.474	ug/l	2691.59
Sn	118	115	3	He	0.509	ug/l	934.49
Sb	121	115	1	No Gas	0.136	ug/l	1026.14
Sb	121	115	3	He	0.151	ug/l	377.38
Sb	123	115	1	No Gas	0.150	ug/l	838.45
Sb	123	115	3	He	0.163	ug/l	310.04
Ba	135	115	1	No Gas	8.488	ug/l	10063.75
Ba	137	115	1	No Gas	8.384	ug/l	17040.02
La	139	115	3	He	1899.158	ug/l	682.25
Ce	140	115	3	He	1.150	ug/l	1647.88
Hg	201	209	1	No Gas	0.057	ug/l	13.67
Hg	202	209	1	No Gas	0.078	ug/l	33.32
Hg	202	209	3	He	0.059	ug/l	12.67
Tl	203	209	3	He	0.175	ug/l	418.84
Tl	205	209	1	No Gas	0.128	ug/l	1117.84
Tl	205	209	3	He	0.193	ug/l	1068.48
[Pb]	206	209	1	No Gas	0.125	ug/l	384.45
[Pb]	207	209	1	No Gas	0.132	ug/l	327.78
Pb	208	209	1	No Gas	0.127	ug/l	1480.04
Th	232	209	3	He	0.064	ug/l	406.84
U	238	209	1	No Gas	0.018	ug/l	154.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1931524.89	71.8
Sc	45	2	H2	1089879.14	68.3
Sc	45	3	He	144973.06	64.1
Ge	72	1	No Gas	525854.72	80.6
Ge	72	2	H2	436022.81	78.4
Ge	72	3	He	91371.85	72.8
In	115	1	No Gas	2367388.18	77.0
In	115	3	He	701915.94	73.3
Tb	159	1	No Gas	2169122.35	81.4
Tb	159	3	He	1294149.59	85.7
Ho	165	1	No Gas	1967240.70	81.7
Ho	165	3	He	1195657.23	86.0
Lu	175	1	No Gas	1882764.83	84.0
Lu	175	3	He	937929.11	86.1
Bi	209	1	No Gas	1167967.86	81.7
Bi	209	3	He	795533.69	91.6

ICPMS207-B Analytical Data

Sample Name	B22010629-001A
File Name	068SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 18:57:10
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	-1.593	ug/l	3357.73
Be	9	45	1	No Gas	-0.088	ug/l	43.99
B	11	45	1	No Gas	45.469	ug/l	77204.91
Na	23	45	3	He	40767.097	ug/l	26509031.55
Mg	24	45	3	He	18859.851	ug/l	6728251.02
Al	27	45	1	No Gas	3.171	ug/l	49022.31
Si	28	45	2	H2	18470.639	ug/l	28030495.22
K	39	72	3	He	1158.506	ug/l	705692.79
Ca	40	72	2	H2	16000.398	ug/l	92184627.21
Ti	47	72	1	No Gas	0.826	ug/l	1750.20
V	51	72	1	No Gas	3.878	ug/l	6633.43
V	51	72	3	He	-6.299	ug/l	9745.50
Cr	52	72	1	No Gas	-2.391	ug/l	57374.04
Cr	52	72	3	He	-0.290	ug/l	3912.76
Mn	55	72	1	No Gas	381.735	ug/l	7004577.22
Mn	55	72	3	He	355.715	ug/l	856717.62
Fe	56	72	2	H2	94.578	ug/l	1094679.76
Fe	56	72	3	He	92.539	ug/l	306924.26
Co	59	72	1	No Gas	0.154	ug/l	3170.73
Ni	60	72	1	No Gas	0.235	ug/l	1650.16
Ni	60	72	3	He	0.257	ug/l	622.24
Cu	63	72	1	No Gas	0.469	ug/l	5868.21
Cu	63	72	3	He	0.322	ug/l	1622.43
Cu	65	72	1	No Gas	0.374	ug/l	2139.02
Zn	66	72	1	No Gas	5.574	ug/l	16741.80
Zn	66	72	3	He	5.221	ug/l	4233.97
As	75	72	1	No Gas	-1.159	ug/l	13894.80
As	75	72	3	He	-0.809	ug/l	434.73
Se	78	72	2	H2	-0.032	ug/l	29.67
Br	79	72	1	No Gas	16.192	ug/l	130593.21
Br	79	72	2	H2	17.356	ug/l	100309.92
Se	82	72	1	No Gas	-0.408	ug/l	625.14
Kr	84	72	1	No Gas		ug/l	36416.98
Sr	88	72	1	No Gas	161.441	ug/l	3141939.85
Sr	88	72	3	He	142.954	ug/l	471020.64
Mo	95	115	1	No Gas	5.955	ug/l	24827.22
Mo	95	115	3	He	6.744	ug/l	10955.47
Mo	98	115	1	No Gas	5.920	ug/l	38854.67
Ag	107	115	1	No Gas	-0.064	ug/l	47.35
Ag	109	115	1	No Gas	-0.061	ug/l	44.69
Cd	111	115	1	No Gas	0.018	ug/l	48.93

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.024	ug/l	27.78
Cd	114	115	1	No Gas	0.038	ug/l	128.12
Cd	114	115	3	He	0.028	ug/l	66.66
Sn	118	115	1	No Gas	-0.113	ug/l	439.14
Sn	118	115	3	He	-0.100	ug/l	168.89
Sb	121	115	1	No Gas	0.029	ug/l	388.04
Sb	121	115	3	He	0.021	ug/l	123.01
Sb	123	115	1	No Gas	0.032	ug/l	313.04
Sb	123	115	3	He	0.023	ug/l	94.01
Ba	135	115	1	No Gas	2.326	ug/l	3769.72
Ba	137	115	1	No Gas	2.389	ug/l	6645.11
La	139	115	3	He	0.228	ug/l	11.11
Ce	140	115	3	He	0.005	ug/l	17.78
Hg	201	209	1	No Gas	0.009	ug/l	11.67
Hg	202	209	1	No Gas	0.241	ug/l	92.31
Hg	202	209	3	He	0.307	ug/l	58.66
Tl	203	209	3	He	0.181	ug/l	507.55
Tl	205	209	1	No Gas	0.106	ug/l	1274.52
Tl	205	209	3	He	0.163	ug/l	1091.82
[Pb]	206	209	1	No Gas	0.007	ug/l	150.00
[Pb]	207	209	1	No Gas	0.010	ug/l	124.45
Pb	208	209	1	No Gas	0.011	ug/l	586.68
Th	232	209	3	He	0.001	ug/l	53.36
U	238	209	1	No Gas	0.006	ug/l	83.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2712935.42	100.8
Sc	45	2	H2	1535648.32	96.3
Sc	45	3	He	211930.65	93.8
Ge	72	1	No Gas	638829.28	97.9
Ge	72	2	H2	553762.75	99.6
Ge	72	3	He	124850.39	99.5
In	115	1	No Gas	3224793.74	104.8
In	115	3	He	949491.53	99.1
Tb	159	1	No Gas	2911118.34	109.2
Tb	159	3	He	1590747.85	105.4
Ho	165	1	No Gas	2609868.42	108.4
Ho	165	3	He	1479192.41	106.4
Lu	175	1	No Gas	2517119.84	112.3
Lu	175	3	He	1190667.24	109.3
Bi	209	1	No Gas	1544070.61	108.1
Bi	209	3	He	937004.34	107.9

ICPMS207-B Analytical Data

Sample Name	B22010629-001B
File Name	069SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:03:24
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	-0.885	ug/l	4886.08
Be	9	45	1	No Gas	-0.080	ug/l	43.99
B	11	45	1	No Gas	52.958	ug/l	62260.86
Na	23	45	3	He	41883.232	ug/l	18679525.42
Mg	24	45	3	He	19192.223	ug/l	4696268.16
Al	27	45	1	No Gas	2.149	ug/l	25276.94
Si	28	45	2	H2	18733.422	ug/l	19872236.27
K	39	72	3	He	1031.355	ug/l	478358.54
Ca	40	72	2	H2	14926.021	ug/l	65601197.22
Ti	47	72	1	No Gas	1.153	ug/l	1778.57
V	51	72	1	No Gas	2.257	ug/l	-16307.70
V	51	72	3	He	7.675	ug/l	41847.06
Cr	52	72	1	No Gas	5.561	ug/l	141725.80
Cr	52	72	3	He	0.618	ug/l	5288.75
Mn	55	72	1	No Gas	341.188	ug/l	5083370.53
Mn	55	72	3	He	341.715	ug/l	609845.30
Fe	56	72	2	H2	127.319	ug/l	1118507.13
Fe	56	72	3	He	127.961	ug/l	309047.36
Co	59	72	1	No Gas	0.227	ug/l	3526.78
Ni	60	72	1	No Gas	0.631	ug/l	2511.99
Ni	60	72	3	He	0.634	ug/l	816.70
Cu	63	72	1	No Gas	0.915	ug/l	7882.63
Cu	63	72	3	He	0.826	ug/l	2399.05
Cu	65	72	1	No Gas	0.735	ug/l	2911.46
Zn	66	72	1	No Gas	4.236	ug/l	10476.75
Zn	66	72	3	He	4.562	ug/l	2758.06
As	75	72	1	No Gas	3.756	ug/l	26703.57
As	75	72	3	He	0.913	ug/l	1462.04
Se	78	72	2	H2	0.081	ug/l	64.44
Br	79	72	1	No Gas	11.815	ug/l	82437.44
Br	79	72	2	H2	12.548	ug/l	58705.75
Se	82	72	1	No Gas	0.004	ug/l	577.01
Kr	84	72	1	No Gas		ug/l	28978.44
Sr	88	72	1	No Gas	141.719	ug/l	2239513.64
Sr	88	72	3	He	138.234	ug/l	337425.99
Mo	95	115	1	No Gas	6.663	ug/l	19601.32
Mo	95	115	3	He	7.660	ug/l	9186.34
Mo	98	115	1	No Gas	6.498	ug/l	30062.00
Ag	107	115	1	No Gas	-0.063	ug/l	35.35
Ag	109	115	1	No Gas	-0.062	ug/l	21.34
Cd	111	115	1	No Gas	0.010	ug/l	23.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	10.45
Cd	114	115	1	No Gas	0.019	ug/l	30.13
Cd	114	115	3	He	0.009	ug/l	23.39
Sn	118	115	1	No Gas	0.289	ug/l	1863.15
Sn	118	115	3	He	0.328	ug/l	693.36
Sb	121	115	1	No Gas	0.052	ug/l	428.38
Sb	121	115	3	He	0.062	ug/l	181.02
Sb	123	115	1	No Gas	0.061	ug/l	362.37
Sb	123	115	3	He	0.066	ug/l	143.68
Ba	135	115	1	No Gas	2.446	ug/l	2794.75
Ba	137	115	1	No Gas	2.458	ug/l	4821.31
La	139	115	3	He	24.239	ug/l	16.67
Ce	140	115	3	He	0.022	ug/l	36.67
Hg	201	209	1	No Gas	0.053	ug/l	12.67
Hg	202	209	1	No Gas	0.360	ug/l	92.65
Hg	202	209	3	He	0.348	ug/l	55.66
Tl	203	209	3	He	0.096	ug/l	259.44
Tl	205	209	1	No Gas	0.050	ug/l	561.13
Tl	205	209	3	He	0.096	ug/l	607.59
[Pb]	206	209	1	No Gas	0.017	ug/l	131.11
[Pb]	207	209	1	No Gas	0.022	ug/l	111.11
Pb	208	209	1	No Gas	0.019	ug/l	488.89
Th	232	209	3	He	0.029	ug/l	200.75
U	238	209	1	No Gas	0.006	ug/l	62.66

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1885261.40	70.1
Sc	45	2	H2	1073358.31	67.3
Sc	45	3	He	145366.01	64.3
Ge	72	1	No Gas	518557.85	79.5
Ge	72	2	H2	422320.15	75.9
Ge	72	3	He	92521.13	73.7
In	115	1	No Gas	2275420.60	74.0
In	115	3	He	700955.38	73.2
Tb	159	1	No Gas	2171585.94	81.5
Tb	159	3	He	1276527.69	84.5
Ho	165	1	No Gas	1940739.15	80.6
Ho	165	3	He	1188196.14	85.5
Lu	175	1	No Gas	1840755.78	82.1
Lu	175	3	He	930706.20	85.5
Bi	209	1	No Gas	1119946.55	78.4
Bi	209	3	He	790248.01	91.0

ICPMS207-B Analytical Data

Sample Name	B22010633-001A
File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:09:37
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	-1.090	ug/l	5922.87
Be	9	45	1	No Gas	-0.092	ug/l	33.66
B	11	45	1	No Gas	54.036	ug/l	90711.30
Na	23	45	3	He	36899.727	ug/l	23543610.48
Mg	24	45	3	He	11791.051	ug/l	4127331.22
Al	27	45	1	No Gas	2.586	ug/l	41480.64
Si	28	45	2	H2	21551.460	ug/l	32357009.39
K	39	72	3	He	1705.710	ug/l	960469.77
Ca	40	72	2	H2	10540.178	ug/l	60732383.16
Ti	47	72	1	No Gas	0.873	ug/l	1770.23
V	51	72	1	No Gas	18.807	ug/l	247512.68
V	51	72	3	He	9.732	ug/l	63124.46
Cr	52	72	1	No Gas	-0.840	ug/l	78294.62
Cr	52	72	3	He	1.801	ug/l	11295.51
Mn	55	72	1	No Gas	0.320	ug/l	14981.30
Mn	55	72	3	He	0.055	ug/l	475.25
Fe	56	72	2	H2	0.254	ug/l	23581.04
Fe	56	72	3	He	-0.472	ug/l	17569.82
Co	59	72	1	No Gas	-0.002	ug/l	655.38
Ni	60	72	1	No Gas	0.307	ug/l	1866.43
Ni	60	72	3	He	0.336	ug/l	720.02
Cu	63	72	1	No Gas	1.203	ug/l	11888.95
Cu	63	72	3	He	1.086	ug/l	4055.75
Cu	65	72	1	No Gas	1.131	ug/l	5042.24
Zn	66	72	1	No Gas	9.456	ug/l	27202.96
Zn	66	72	3	He	9.176	ug/l	7272.96
As	75	72	1	No Gas	-1.619	ug/l	11790.28
As	75	72	3	He	-0.894	ug/l	357.67
Se	78	72	2	H2	0.141	ug/l	113.78
Br	79	72	1	No Gas	14.103	ug/l	113846.39
Br	79	72	2	H2	13.816	ug/l	83022.51
Se	82	72	1	No Gas	0.244	ug/l	741.42
Kr	84	72	1	No Gas		ug/l	28421.73
Sr	88	72	1	No Gas	83.232	ug/l	1580502.36
Sr	88	72	3	He	74.011	ug/l	243011.54
Mo	95	115	1	No Gas	0.141	ug/l	592.24
Mo	95	115	3	He	0.146	ug/l	244.45
Mo	98	115	1	No Gas	0.136	ug/l	904.48
Ag	107	115	1	No Gas	-0.062	ug/l	57.36
Ag	109	115	1	No Gas	-0.060	ug/l	44.68
Cd	111	115	1	No Gas	0.025	ug/l	60.00

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.024	ug/l	27.22
Cd	114	115	1	No Gas	0.036	ug/l	116.97
Cd	114	115	3	He	0.029	ug/l	67.28
Sn	118	115	1	No Gas	-0.102	ug/l	489.04
Sn	118	115	3	He	-0.101	ug/l	166.67
Sb	121	115	1	No Gas	0.430	ug/l	4063.00
Sb	121	115	3	He	0.453	ug/l	1403.22
Sb	123	115	1	No Gas	0.444	ug/l	3131.33
Sb	123	115	3	He	0.440	ug/l	1053.82
Ba	135	115	1	No Gas	4.782	ug/l	7547.08
Ba	137	115	1	No Gas	4.564	ug/l	12337.69
La	139	115	3	He	0.405	ug/l	11.11
Ce	140	115	3	He	0.011	ug/l	28.89
Hg	201	209	1	No Gas	-0.006	ug/l	9.67
Hg	202	209	1	No Gas	0.017	ug/l	25.99
Hg	202	209	3	He	0.051	ug/l	13.67
Tl	203	209	3	He	0.100	ug/l	320.13
Tl	205	209	1	No Gas	0.062	ug/l	883.37
Tl	205	209	3	He	0.101	ug/l	754.33
[Pb]	206	209	1	No Gas	0.032	ug/l	228.89
[Pb]	207	209	1	No Gas	0.042	ug/l	205.56
Pb	208	209	1	No Gas	0.036	ug/l	888.90
Th	232	209	3	He	-0.001	ug/l	38.02
U	238	209	1	No Gas	0.179	ug/l	1852.13

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2694637.64	100.2
Sc	45	2	H2	1519585.95	95.3
Sc	45	3	He	207890.72	92.0
Ge	72	1	No Gas	623057.10	95.5
Ge	72	2	H2	553123.43	99.5
Ge	72	3	He	124390.11	99.1
In	115	1	No Gas	3147917.27	102.3
In	115	3	He	941407.18	98.3
Tb	159	1	No Gas	2918858.88	109.5
Tb	159	3	He	1582891.08	104.8
Ho	165	1	No Gas	2680735.69	111.4
Ho	165	3	He	1471919.63	105.9
Lu	175	1	No Gas	2550577.05	113.8
Lu	175	3	He	1170247.71	107.5
Bi	209	1	No Gas	1549971.66	108.5
Bi	209	3	He	940718.82	108.4

ICPMS207-B Analytical Data

Sample Name	B22010633-001B
File Name	071SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:15:50
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	-0.408	ug/l	6595.42
Be	9	45	1	No Gas	-0.085	ug/l	34.32
B	11	45	1	No Gas	61.398	ug/l	71863.46
Na	23	45	3	He	38776.784	ug/l	16757162.25
Mg	24	45	3	He	12441.316	ug/l	2949805.36
Al	27	45	1	No Gas	46.597	ug/l	407241.10
Si	28	45	2	H2	21761.596	ug/l	22766867.72
K	39	72	3	He	1632.127	ug/l	655164.98
Ca	40	72	2	H2	9865.507	ug/l	42586633.05
Ti	47	72	1	No Gas	3.863	ug/l	4618.71
V	51	72	1	No Gas	11.175	ug/l	100553.24
V	51	72	3	He	24.251	ug/l	78893.85
Cr	52	72	1	No Gas	7.564	ug/l	161662.65
Cr	52	72	3	He	3.382	ug/l	11944.91
Mn	55	72	1	No Gas	4.689	ug/l	75593.26
Mn	55	72	3	He	3.213	ug/l	5694.97
Fe	56	72	2	H2	67.306	ug/l	587372.68
Fe	56	72	3	He	71.674	ug/l	170602.30
Co	59	72	1	No Gas	0.136	ug/l	2282.32
Ni	60	72	1	No Gas	0.678	ug/l	2591.77
Ni	60	72	3	He	0.830	ug/l	952.26
Cu	63	72	1	No Gas	1.624	ug/l	12529.08
Cu	63	72	3	He	1.743	ug/l	4354.12
Cu	65	72	1	No Gas	1.435	ug/l	5056.91
Zn	66	72	1	No Gas	22.625	ug/l	52028.92
Zn	66	72	3	He	26.238	ug/l	14473.94
As	75	72	1	No Gas	1.054	ug/l	17864.13
As	75	72	3	He	0.868	ug/l	1362.90
Se	78	72	2	H2	0.258	ug/l	127.67
Br	79	72	1	No Gas	11.292	ug/l	77707.18
Br	79	72	2	H2	11.619	ug/l	54207.19
Se	82	72	1	No Gas	0.839	ug/l	698.48
Kr	84	72	1	No Gas		ug/l	22906.22
Sr	88	72	1	No Gas	72.709	ug/l	1121110.52
Sr	88	72	3	He	73.453	ug/l	170644.73
Mo	95	115	1	No Gas	0.342	ug/l	1018.93
Mo	95	115	3	He	0.414	ug/l	491.12
Mo	98	115	1	No Gas	0.356	ug/l	1668.30
Ag	107	115	1	No Gas	-0.004	ug/l	458.86
Ag	109	115	1	No Gas	-0.005	ug/l	402.17
Cd	111	115	1	No Gas	0.013	ug/l	26.96

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	8.11
Cd	114	115	1	No Gas	0.022	ug/l	40.49
Cd	114	115	3	He	0.007	ug/l	20.15
Sn	118	115	1	No Gas	0.391	ug/l	2262.37
Sn	118	115	3	He	0.478	ug/l	871.15
Sb	121	115	1	No Gas	0.510	ug/l	3470.78
Sb	121	115	3	He	0.581	ug/l	1297.86
Sb	123	115	1	No Gas	0.515	ug/l	2614.84
Sb	123	115	3	He	0.585	ug/l	1010.14
Ba	135	115	1	No Gas	6.469	ug/l	7367.43
Ba	137	115	1	No Gas	6.671	ug/l	13013.67
La	139	115	3	He	612.412	ug/l	220.00
Ce	140	115	3	He	0.465	ug/l	653.35
Hg	201	209	1	No Gas	0.007	ug/l	8.33
Hg	202	209	1	No Gas	0.085	ug/l	33.99
Hg	202	209	3	He	0.087	ug/l	16.67
Tl	203	209	3	He	0.069	ug/l	205.42
Tl	205	209	1	No Gas	0.045	ug/l	530.02
Tl	205	209	3	He	0.065	ug/l	457.53
[Pb]	206	209	1	No Gas	0.221	ug/l	586.68
[Pb]	207	209	1	No Gas	0.234	ug/l	507.79
Pb	208	209	1	No Gas	0.233	ug/l	2363.43
Th	232	209	3	He	0.023	ug/l	166.07
U	238	209	1	No Gas	0.016	ug/l	134.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1883823.18	70.0
Sc	45	2	H2	1058775.57	66.4
Sc	45	3	He	140813.26	62.3
Ge	72	1	No Gas	506163.60	77.6
Ge	72	2	H2	414260.92	74.5
Ge	72	3	He	88031.68	70.1
In	115	1	No Gas	2273081.77	73.9
In	115	3	He	684914.87	71.5
Tb	159	1	No Gas	2159099.13	81.0
Tb	159	3	He	1295788.22	85.8
Ho	165	1	No Gas	1964373.56	81.6
Ho	165	3	He	1192865.02	85.8
Lu	175	1	No Gas	1863338.10	83.1
Lu	175	3	He	917995.19	84.3
Bi	209	1	No Gas	1135351.29	79.5
Bi	209	3	He	783654.14	90.3

ICPMS207-B Analytical Data

Sample Name	B22010637-001A
File Name	072SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:22:04
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	-1.479	ug/l	3840.03
Be	9	45	1	No Gas	-0.093	ug/l	28.99
B	11	45	1	No Gas	72.231	ug/l	118001.32
Na	23	45	3	He	37302.152	ug/l	23297429.38
Mg	24	45	3	He	8799.597	ug/l	3015465.58
Al	27	45	1	No Gas	1.807	ug/l	31247.13
Si	28	45	2	H2	21923.317	ug/l	32586671.25
K	39	72	3	He	1549.327	ug/l	861230.33
Ca	40	72	2	H2	6982.236	ug/l	39552526.13
Ti	47	72	1	No Gas	0.865	ug/l	1753.54
V	51	72	1	No Gas	22.712	ug/l	309757.34
V	51	72	3	He	13.277	ug/l	72759.98
Cr	52	72	1	No Gas	0.136	ug/l	92050.25
Cr	52	72	3	He	2.815	ug/l	14449.36
Mn	55	72	1	No Gas	0.593	ug/l	19794.04
Mn	55	72	3	He	0.370	ug/l	1194.15
Fe	56	72	2	H2	0.561	ug/l	26553.98
Fe	56	72	3	He	-0.162	ug/l	17989.07
Co	59	72	1	No Gas	-0.011	ug/l	515.65
Ni	60	72	1	No Gas	0.065	ug/l	998.06
Ni	60	72	3	He	0.114	ug/l	426.68
Cu	63	72	1	No Gas	0.809	ug/l	8551.27
Cu	63	72	3	He	0.717	ug/l	2794.38
Cu	65	72	1	No Gas	0.708	ug/l	3379.09
Zn	66	72	1	No Gas	4.678	ug/l	13781.31
Zn	66	72	3	He	4.606	ug/l	3632.69
As	75	72	1	No Gas	-1.624	ug/l	11731.66
As	75	72	3	He	-0.903	ug/l	339.93
Se	78	72	2	H2	0.123	ug/l	103.11
Br	79	72	1	No Gas	13.241	ug/l	107959.67
Br	79	72	2	H2	13.967	ug/l	82185.49
Se	82	72	1	No Gas	0.247	ug/l	739.29
Kr	84	72	1	No Gas		ug/l	24522.23
Sr	88	72	1	No Gas	61.699	ug/l	1168223.43
Sr	88	72	3	He	55.858	ug/l	178070.81
Mo	95	115	1	No Gas	0.903	ug/l	3712.73
Mo	95	115	3	He	1.080	ug/l	1716.78
Mo	98	115	1	No Gas	0.901	ug/l	5832.00
Ag	107	115	1	No Gas	-0.063	ug/l	52.69
Ag	109	115	1	No Gas	-0.060	ug/l	48.02
Cd	111	115	1	No Gas	0.022	ug/l	55.50

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.018	ug/l	21.89
Cd	114	115	1	No Gas	0.034	ug/l	108.21
Cd	114	115	3	He	0.021	ug/l	51.62
Sn	118	115	1	No Gas	-0.114	ug/l	425.83
Sn	118	115	3	He	-0.118	ug/l	133.33
Sb	121	115	1	No Gas	0.025	ug/l	347.04
Sb	121	115	3	He	0.026	ug/l	133.68
Sb	123	115	1	No Gas	0.025	ug/l	257.69
Sb	123	115	3	He	0.026	ug/l	97.68
Ba	135	115	1	No Gas	1.911	ug/l	3040.98
Ba	137	115	1	No Gas	1.911	ug/l	5227.31
La	139	115	3	He	3.376	ug/l	12.22
Ce	140	115	3	He	0.006	ug/l	17.78
Hg	201	209	1	No Gas	-0.003	ug/l	10.00
Hg	202	209	1	No Gas	0.077	ug/l	43.66
Hg	202	209	3	He	0.111	ug/l	23.66
Tl	203	209	3	He	0.079	ug/l	266.11
Tl	205	209	1	No Gas	0.040	ug/l	676.69
Tl	205	209	3	He	0.077	ug/l	606.26
[Pb]	206	209	1	No Gas	0.029	ug/l	217.78
[Pb]	207	209	1	No Gas	0.037	ug/l	192.23
Pb	208	209	1	No Gas	0.037	ug/l	884.46
Th	232	209	3	He	-0.002	ug/l	32.01
U	238	209	1	No Gas	0.005	ug/l	71.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2636563.11	98.0
Sc	45	2	H2	1504208.32	94.3
Sc	45	3	He	203502.73	90.0
Ge	72	1	No Gas	621325.52	95.2
Ge	72	2	H2	542696.82	97.6
Ge	72	3	He	120800.42	96.2
In	115	1	No Gas	3164033.75	102.9
In	115	3	He	925044.25	96.6
Tb	159	1	No Gas	2954931.34	110.9
Tb	159	3	He	1576173.59	104.4
Ho	165	1	No Gas	2658462.06	110.4
Ho	165	3	He	1448855.43	104.2
Lu	175	1	No Gas	2579129.14	115.1
Lu	175	3	He	1158425.16	106.4
Bi	209	1	No Gas	1541789.83	107.9
Bi	209	3	He	923804.80	106.4

ICPMS207-B Analytical Data

Sample Name	B22010637-001B
File Name	073SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:28:17
Sample Type	Sample
Total Dilution	1.0000
Comment	ICPMS-6020-W-T
Operator	CAR/SRH/JPV/AEM
Method	SW6020/ SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.846	ug/l	4884.09
Be	9	45	1	No Gas	-0.081	ug/l	41.32
B	11	45	1	No Gas	83.422	ug/l	94436.55
Na	23	45	3	He	39133.001	ug/l	16626799.89
Mg	24	45	3	He	9289.468	ug/l	2165624.64
Al	27	45	1	No Gas	4.723	ug/l	46075.57
Si	28	45	2	H2	22466.573	ug/l	23261216.78
K	39	72	3	He	1429.591	ug/l	593914.99
Ca	40	72	2	H2	6619.077	ug/l	28460836.08
Ti	47	72	1	No Gas	1.411	ug/l	1938.75
V	51	72	1	No Gas	20.089	ug/l	210382.80
V	51	72	3	He	26.034	ug/l	83984.00
Cr	52	72	1	No Gas	8.550	ug/l	167071.42
Cr	52	72	3	He	3.631	ug/l	12707.75
Mn	55	72	1	No Gas	3.155	ug/l	51421.06
Mn	55	72	3	He	1.570	ug/l	2938.04
Fe	56	72	2	H2	28.150	ug/l	253122.46
Fe	56	72	3	He	29.180	ug/l	78267.67
Co	59	72	1	No Gas	0.116	ug/l	1964.21
Ni	60	72	1	No Gas	0.389	ug/l	1690.17
Ni	60	72	3	He	0.424	ug/l	594.46
Cu	63	72	1	No Gas	0.796	ug/l	6635.52
Cu	63	72	3	He	0.670	ug/l	1951.74
Cu	65	72	1	No Gas	0.598	ug/l	2317.78
Zn	66	72	1	No Gas	12.878	ug/l	28815.10
Zn	66	72	3	He	13.871	ug/l	7793.25
As	75	72	1	No Gas	1.363	ug/l	18066.07
As	75	72	3	He	0.723	ug/l	1284.63
Se	78	72	2	H2	0.231	ug/l	117.22
Br	79	72	1	No Gas	13.251	ug/l	84869.69
Br	79	72	2	H2	13.831	ug/l	61902.47
Se	82	72	1	No Gas	-0.357	ug/l	487.41
Kr	84	72	1	No Gas		ug/l	20227.50
Sr	88	72	1	No Gas	56.832	ug/l	845557.82
Sr	88	72	3	He	54.108	ug/l	127065.50
Mo	95	115	1	No Gas	0.980	ug/l	2811.41
Mo	95	115	3	He	1.141	ug/l	1328.96
Mo	98	115	1	No Gas	0.988	ug/l	4466.21
Ag	107	115	1	No Gas	-0.064	ug/l	28.68
Ag	109	115	1	No Gas	-0.062	ug/l	24.68
Cd	111	115	1	No Gas	-0.006	ug/l	-1.44

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	6.45
Cd	114	115	1	No Gas	0.011	ug/l	4.93
Cd	114	115	3	He	0.004	ug/l	14.88
Sn	118	115	1	No Gas	0.291	ug/l	1826.51
Sn	118	115	3	He	0.329	ug/l	671.13
Sb	121	115	1	No Gas	0.053	ug/l	418.38
Sb	121	115	3	He	0.062	ug/l	175.35
Sb	123	115	1	No Gas	0.050	ug/l	301.37
Sb	123	115	3	He	0.064	ug/l	136.01
Ba	135	115	1	No Gas	2.174	ug/l	2412.10
Ba	137	115	1	No Gas	1.983	ug/l	3789.68
La	139	115	3	He	12.760	ug/l	12.22
Ce	140	115	3	He	0.024	ug/l	38.89
Hg	201	209	1	No Gas	0.010	ug/l	8.67
Hg	202	209	1	No Gas	0.126	ug/l	42.99
Hg	202	209	3	He	0.088	ug/l	17.33
Tl	203	209	3	He	0.058	ug/l	189.41
Tl	205	209	1	No Gas	0.036	ug/l	475.57
Tl	205	209	3	He	0.055	ug/l	420.84
[Pb]	206	209	1	No Gas	0.106	ug/l	332.23
[Pb]	207	209	1	No Gas	0.128	ug/l	312.23
Pb	208	209	1	No Gas	0.114	ug/l	1327.82
Th	232	209	3	He	0.019	ug/l	150.06
U	238	209	1	No Gas	0.006	ug/l	63.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	1831532.72	68.1
Sc	45	2	H2	1047916.75	65.7
Sc	45	3	He	138448.95	61.2
Ge	72	1	No Gas	488130.56	74.8
Ge	72	2	H2	411930.54	74.1
Ge	72	3	He	88949.09	70.9
In	115	1	No Gas	2211724.33	71.9
In	115	3	He	677650.60	70.8
Tb	159	1	No Gas	2101439.71	78.8
Tb	159	3	He	1275103.00	84.5
Ho	165	1	No Gas	1880786.79	78.1
Ho	165	3	He	1187277.42	85.4
Lu	175	1	No Gas	1818275.51	81.1
Lu	175	3	He	905136.44	83.1
Bi	209	1	No Gas	1137824.63	79.6
Bi	209	3	He	802151.05	92.4

ICPMS207-B Analytical Data

Sample Name	CCV
File Name	074_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:34:30
Sample Type	CCV
Total Dilution	1.0000
Comment	ICPMS-200.8-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	658.839	ug/l	2677027.56
Be	9	45	1	No Gas	51.786	ug/l	99897.55
B	11	45	1	No Gas	56.558	ug/l	74609.13
Na	23	45	3	He	13542.828	ug/l	6991739.55
Mg	24	45	3	He	13229.515	ug/l	3732606.68
Al	27	45	1	No Gas	47.857	ug/l	470481.91
Si	28	45	2	H2	196.407	ug/l	259593.01
K	39	72	3	He	10693.289	ug/l	4293527.40
Ca	40	72	2	H2	11056.528	ug/l	54358549.55
Ti	47	72	1	No Gas	47.651	ug/l	54233.52
V	51	72	1	No Gas	47.582	ug/l	611538.99
V	51	72	3	He	51.524	ug/l	167410.21
Cr	52	72	1	No Gas	50.842	ug/l	706233.48
Cr	52	72	3	He	52.563	ug/l	157928.80
Mn	55	72	1	No Gas	52.989	ug/l	822690.90
Mn	55	72	3	He	50.108	ug/l	99728.93
Fe	56	72	2	H2	1250.680	ug/l	12123226.76
Fe	56	72	3	He	1302.656	ug/l	3356577.08
Co	59	72	1	No Gas	50.348	ug/l	677228.61
Ni	60	72	1	No Gas	49.638	ug/l	152668.89
Ni	60	72	3	He	57.098	ug/l	60100.86
Cu	63	72	1	No Gas	50.357	ug/l	365519.72
Cu	63	72	3	He	59.335	ug/l	157298.13
Cu	65	72	1	No Gas	51.125	ug/l	172164.56
Zn	66	72	1	No Gas	53.561	ug/l	129534.86
Zn	66	72	3	He	55.736	ug/l	35781.65
As	75	72	1	No Gas	53.197	ug/l	187953.35
As	75	72	3	He	51.983	ug/l	39228.39
Se	78	72	2	H2	52.039	ug/l	21649.96
Br	79	72	1	No Gas	1.366	ug/l	27098.39
Br	79	72	2	H2	1.053	ug/l	18052.21
Se	82	72	1	No Gas	50.415	ug/l	9223.64
Kr	84	72	1	No Gas		ug/l	20430.78
Sr	88	72	1	No Gas	53.994	ug/l	882106.96
Sr	88	72	3	He	50.352	ug/l	136809.08
Mo	95	115	1	No Gas	47.808	ug/l	161575.60
Mo	95	115	3	He	55.755	ug/l	76276.05
Mo	98	115	1	No Gas	47.651	ug/l	253451.65
Ag	107	115	1	No Gas	19.385	ug/l	159678.11
Ag	109	115	1	No Gas	19.626	ug/l	150896.92
Cd	111	115	1	No Gas	50.647	ug/l	84478.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	55.966	ug/l	37208.92
Cd	114	115	1	No Gas	50.733	ug/l	185906.22
Cd	114	115	3	He	57.268	ug/l	89449.31
Sn	118	115	1	No Gas	51.371	ug/l	229651.65
Sn	118	115	3	He	55.591	ug/l	84472.22
Sb	121	115	1	No Gas	50.194	ug/l	383906.77
Sb	121	115	3	He	54.349	ug/l	137274.86
Sb	123	115	1	No Gas	51.443	ug/l	293606.86
Sb	123	115	3	He	54.915	ug/l	107569.71
Ba	135	115	1	No Gas	52.407	ug/l	68565.64
Ba	137	115	1	No Gas	52.105	ug/l	116717.57
La	139	115	3	He	34.996	ug/l	23.33
Ce	140	115	3	He	273.961	ug/l	445862.52
Hg	201	209	1	No Gas	4.749	ug/l	563.90
Hg	202	209	1	No Gas	4.986	ug/l	1304.81
Hg	202	209	3	He	5.536	ug/l	935.18
Tl	203	209	3	He	49.816	ug/l	110845.33
Tl	205	209	1	No Gas	49.167	ug/l	382585.03
Tl	205	209	3	He	49.624	ug/l	263691.85
[Pb]	206	209	1	No Gas	50.611	ug/l	133051.69
[Pb]	207	209	1	No Gas	52.039	ug/l	114778.26
Pb	208	209	1	No Gas	52.099	ug/l	538178.40
Th	232	209	3	He	50.924	ug/l	328443.09
U	238	209	1	No Gas	48.765	ug/l	429967.77

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2118839.28	78.8
Sc	45	2	H2	1214961.92	76.2
Sc	45	3	He	167569.66	74.1
Ge	72	1	No Gas	536037.78	82.2
Ge	72	2	H2	472016.87	84.9
Ge	72	3	He	102998.17	82.0
In	115	1	No Gas	2615455.73	85.0
In	115	3	He	799994.54	83.5
Tb	159	1	No Gas	2453066.81	92.0
Tb	159	3	He	1414700.47	93.7
Ho	165	1	No Gas	2184354.69	90.7
Ho	165	3	He	1330595.18	95.7
Lu	175	1	No Gas	2076806.84	92.6
Lu	175	3	He	1077029.35	98.9
Bi	209	1	No Gas	1343793.66	94.0
Bi	209	3	He	895874.15	103.2

ICPMS207-B Analytical Data

Sample Name	CCB
File Name	075_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\220114ADoD.b
Acq Time	2022-01-14 19:40:45
Sample Type	CCB
Total Dilution	1.0000
Comment	ICPMS-200.8-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	-0.396	ug/l	7350.07
Be	9	45	1	No Gas	-0.080	ug/l	48.99
B	11	45	1	No Gas	1.491	ug/l	3545.18
Na	23	45	3	He	54.750	ug/l	68463.69
Mg	24	45	3	He	0.891	ug/l	1354.05
Al	27	45	1	No Gas	-0.307	ug/l	4577.40
Si	28	45	2	H2	-11.605	ug/l	10059.43
K	39	72	3	He	-44.526	ug/l	111538.33
Ca	40	72	2	H2	-4.071	ug/l	169727.93
Ti	47	72	1	No Gas	-0.225	ug/l	285.29
V	51	72	1	No Gas	3.547	ug/l	1137.56
V	51	72	3	He	0.364	ug/l	25944.01
Cr	52	72	1	No Gas	0.809	ug/l	87772.34
Cr	52	72	3	He	-0.004	ug/l	3991.68
Mn	55	72	1	No Gas	0.398	ug/l	14085.56
Mn	55	72	3	He	-0.010	ug/l	260.28
Fe	56	72	2	H2	0.286	ug/l	19875.06
Fe	56	72	3	He	0.289	ug/l	16200.21
Co	59	72	1	No Gas	-0.011	ug/l	445.79
Ni	60	72	1	No Gas	-0.053	ug/l	502.35
Ni	60	72	3	He	0.079	ug/l	321.12
Cu	63	72	1	No Gas	-0.008	ug/l	1470.67
Cu	63	72	3	He	0.046	ug/l	596.89
Cu	65	72	1	No Gas	0.024	ug/l	621.60
Zn	66	72	1	No Gas	-0.035	ug/l	543.89
Zn	66	72	3	He	0.059	ug/l	187.78
As	75	72	1	No Gas	1.277	ug/l	19557.15
As	75	72	3	He	-0.124	ug/l	848.14
Se	78	72	2	H2	0.019	ug/l	45.11
Br	79	72	1	No Gas	0.524	ug/l	22449.65
Br	79	72	2	H2	0.362	ug/l	14788.34
Se	82	72	1	No Gas	0.208	ug/l	631.81
Kr	84	72	1	No Gas		ug/l	14708.47
Sr	88	72	1	No Gas	0.000	ug/l	192.96
Sr	88	72	3	He	0.003	ug/l	105.56
Mo	95	115	1	No Gas	0.023	ug/l	95.56
Mo	95	115	3	He	0.018	ug/l	32.22
Mo	98	115	1	No Gas	0.019	ug/l	131.67
Ag	107	115	1	No Gas	0.000	ug/l	561.57
Ag	109	115	1	No Gas	0.004	ug/l	530.89
Cd	111	115	1	No Gas	0.011	ug/l	27.12

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.003	ug/l	9.00
Cd	114	115	1	No Gas	0.002	ug/l	-25.49
Cd	114	115	3	He	0.006	ug/l	20.47
Sn	118	115	1	No Gas	-0.022	ug/l	765.18
Sn	118	115	3	He	-0.019	ug/l	262.23
Sb	121	115	1	No Gas	0.068	ug/l	615.74
Sb	121	115	3	He	0.052	ug/l	179.35
Sb	123	115	1	No Gas	0.070	ug/l	469.72
Sb	123	115	3	He	0.055	ug/l	141.02
Ba	135	115	1	No Gas	0.012	ug/l	29.94
Ba	137	115	1	No Gas	-0.006	ug/l	29.94
La	139	115	3	He	-11.798	ug/l	4.44
Ce	140	115	3	He	0.013	ug/l	27.78
Hg	201	209	1	No Gas	0.004	ug/l	9.33
Hg	202	209	1	No Gas	0.009	ug/l	20.33
Hg	202	209	3	He	0.013	ug/l	6.67
Tl	203	209	3	He	0.459	ug/l	1091.15
Tl	205	209	1	No Gas	0.325	ug/l	2781.44
Tl	205	209	3	He	0.423	ug/l	2403.19
[Pb]	206	209	1	No Gas	-0.001	ug/l	110.00
[Pb]	207	209	1	No Gas	0.000	ug/l	85.56
Pb	208	209	1	No Gas	-0.003	ug/l	355.57
Th	232	209	3	He	0.015	ug/l	141.39
U	238	209	1	No Gas	0.003	ug/l	43.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	2084559.32	77.5
Sc	45	2	H2	1207834.51	75.7
Sc	45	3	He	163323.14	72.3
Ge	72	1	No Gas	536166.06	82.2
Ge	72	2	H2	459244.78	82.6
Ge	72	3	He	101121.49	80.6
In	115	1	No Gas	2623080.90	85.3
In	115	3	He	792128.29	82.7
Tb	159	1	No Gas	2458283.12	92.2
Tb	159	3	He	1415622.03	93.8
Ho	165	1	No Gas	2254140.41	93.6
Ho	165	3	He	1300389.71	93.5
Lu	175	1	No Gas	2138455.54	95.4
Lu	175	3	He	1018769.39	93.6
Bi	209	1	No Gas	1328564.96	93.0
Bi	209	3	He	886786.99	102.2

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:

Type: Primary
BY: Amanda E. McDani
Status: Open

Comments:

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**

Analytes **CAS** Conc: **ug/mL**

Page: *1 of 1*

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

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 follow ing 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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.

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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211202 EL200.2MS		
Standard Name	EL-200.2MS	Type:	Primary
Date Prepared	12/2/2021	BY:	Amanda E. McDani
Date Expires:	12/2/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	P2-MEB685870		
Balance ID:			
Comments:	Opened 811/2021; Expires 8/11/2022		

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**
Analytes	**CAS**	Conc: **ug/mL**

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	EL-200.2MS
Lot Number:	S2-MEB702960
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 1 000 µg/mL ea: Phosphorus, 500 µg/mL ea: Manganese, Iron, Aluminum, 100 µg/mL ea: Arsenic, Boron, Barium, Cobalt, Chromium, Copper, Lithium, Nickel, Lead, Selenium, Strontium, Thallium, Vanadium, Zinc, 50 µg/mL ea: Cadmium, Beryllium, 10 µg/mL ea: Silver

ID #: 14398
Opened:_____
Multi Analyte Custom Grade Solution
Expires: 3/8/2025
Rec'd: 10/18/2021
Energy 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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.

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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Spike LOG

Standard ID: ME220106 AUDIGSPK
Standard Name AUDIGSPK
Type: Secondary
Date Prepared 1/6/2022
BY: Amanda E. McDani
Date Expires: 10/25/2022
Department ME
Status: Open
Vendor:
Lot Number:
Balance ID:

Comments:

Final Volume:
50 mL

Stock Source		Base Units	Amount Added
ME211202A	U Stock	ug/mL	5 mL
ME 211025 Th Sec	Th Seondary Stock	ug/mL	5 mL
ME211222 Ce 2nd	Ce Secondary Stock	ug/mL	5 mL
ME211222 La Sec	La Secondary Stock	ug/mL	5 mL
ME211229A AU 2n	Au 2nd source Stock	ug/mL	15 mL
ME211025A	Te Stock	ug/mL	15 mL

Analytes	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:

Type: Primary
BY: Amanda E. McDani
Status: New

Comments:

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**

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **May 2023** (or 15 months after bottle is opened, whichever comes first)

U

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) HNO_3**

ID #: 14419
Opened:_____
ICP/ICPMS Standard Uranium
Expires: 5/31/2023
Rec'd: 10/20/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

% abundance of stable isotopes : ^{238}U : 99. 82% ; ^{235}U : 0.18%

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	**0.0252**	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 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 contentant. 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 chaine 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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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 Seondary Stock	Type:	Primary
Date Prepared	10/25/2021	BY:	Stacy R. Hendricks
Date Expires:	10/25/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-TH706436		
Balance ID:			
Comments:	Opened 10/25/2021; Expires 10/25/2022		

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**

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 Solutic
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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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 <	0.000448	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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211222 CE 2ND SOURCE		
Standard Name	Ce Secondary Stock	Type:	Primary
Date Prepared	12/22/2021	BY:	Amanda E. McDani
Date Expires:	12/22/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S210208003		
Balance ID:			
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

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION:

	***Plasma*CAL 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% HNO_3 (See Section 3 for actual matrix)
Expiration Date (End of month):	**February 2023** (or 15 months after bottle is opened, whichever comes first)

Ce

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) HNO_3**

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

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	**0.0102**	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 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 contentant. 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 chaine 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

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf

Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211222 LA SECOND SOURCE		
Standard Name	La Secondary Stock	Type:	Primary
Date Prepared	12/22/2021	BY:	Amanda E. McDani
Date Expires:	12/22/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S210803016		
Balance ID:			
Comments:	opened 12/22/2021, expires 12/22/2022		

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**

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Certificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **August 2023** (or 15 months after bottle is opened, whichever comes first)

La

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) HNO_3**

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 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 contentant. 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 chaine 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.*

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Marktoberdorf

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	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENC
Providing Innovative Solutions to Analytical

Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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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	Type:	Primary
Date Prepared	10/25/2021	BY:	Stacy R. Hendricks
Date Expires:	10/25/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S200130018		
Balance ID:			
Comments:	Opened 10/25/2021; Expires 10/25/2022		

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**
Analytes	**CAS**	Conc: **ug/mL**

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

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)

Te

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.

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

3.0 REFERENCE VALUES:

Density: **1.049 g/ml @ 25.5 °C**

Actual Matrix: **10.0% (v/v) HNO3**

Trace Metal Impurities as tested by ICP-AES:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	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 d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
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- pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*

For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter* ***SCP SCIENCE***.

6.0 INSTRUCTIONS FOR USE / *INSTRUCTIONS D'UTILISATION*:

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Stability / *Stabilité*: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / *INFORMATION SUR LES RISQUES POTENTIELS*:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / *HOMOGÉNÉITÉ:*

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / *TRAÇABILITÉ*:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaine 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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12 Ave. de Québec, Bat. IRIS
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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME220114A TUNE SOLUTION
Standard Name: Tune Solution
Type: Secondary
Date Prepared: 1/14/2022
BY: Stacy R. Hendricks
Date Expires: 12/7/2022
Department: ME
Status: Open
Vendor:
Lot Number:
Balance ID:

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/
Beryliium Single Analyte Custom Grad	14679	0.2	mL	9/17/

Final Volume: 500 mL

Stock Source	Base Units	Amount Added
ME220114 TUNE S Tune Solution Stock	ug/mL	1 mL

Analytes	CAS	Conc: ug/mL

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 ; 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 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

Michael 2 Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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Christiansburg, VA 24073 USA
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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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	Nd	<	0.000240	M	Sm	<	0.000240				
M	Au	<	0.000240	M	Gd	<	0.000240	M	Ni	<	0.004700	M	Sn	<	0.003300				
M	B	<	0.045000	M	Ge	<	0.003100	M	Os	<	0.000240	M	Sr	<	0.001900				
M	Ba	<	0.001900	M	Hf	<	0.000240	O	P	<	0.130000	M	Ta	<	0.000240				
s	Be	<		M	Hg	<	0.000470	M	Pb	<	0.000470	M	Tb	<	0.000240				
M	Bi	<	0.003300	M	Ho	<	0.000240	M	Pd	<	0.000470	M	Te	<	0.009700				
O	Ca		0.002919	M	In	<	0.001900	M	Pr	<	0.000240	M	Th	<	0.000240				
M	Cd	<	0.000470	M	Ir	<	0.000240	M	Pt	<	0.000240	O	Ti	<	0.003600				
M	Ce	<	0.000240	M	K		0.004968	M	Rb	<	0.001500	M	Tl	<	0.000240				
O	Co	<	0.002100	M	La	<	0.000240	M	Re	<	0.000240	M	Tm	<	0.000240				
O	Cr	<	0.002100	M	Li	<	0.002200	M	Rh	<	0.000240	M	U	<	0.000240				
M	Cs		0.000133	M	Lu	<	0.000240	M	Ru	<	0.000710	M	V	<	0.001500				
O	Cu	<	0.013000	O	Mg		0.000819	i	S	<		M	W	<	0.001700				
M	Dy	<	0.000240	O	Mn	<	0.001900	M	Sb	<	0.000940	M	Y	<	0.000940				
M	Er	<	0.000240	M	Mo	<	0.001700	M	Sc	<	0.003600	M	Yb	<	0.000240				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 9.01 ; +2 ; 4 ; $Be(H_2O)_4^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1 % HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 5-10 % HNO_3 / LDPE container.

Be Containing Samples (Preparation and Solution) - Meta l(is best dissolved in diluted H_2SO_4); BeO (boiling nitric, hydrochloric, or sulfuric acids or $KHSO_4$ fusion); Ores (H_2SO_4/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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

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:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Comments: Solution is 1% HNO3 preserved

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**
Analytes	**CAS**	Conc: **ug/mL**

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 Solutio
Expires: 1/25/2025
Rec'd: 8/27/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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	<	0.038000	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 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 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
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

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION:

***Plasma*CAL 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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **February 2023** (or 15 months after bottle is opened, whichever comes first)

Ce

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) HNO_3**

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

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	**0.0102**	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 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 contentant. 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 chaine 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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Certificate of Analysis

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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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		0.001515	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 $Co(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Co Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 59 amu	2 ppt	n/a	42Ca16O1H , 40Ar18O1H , 36Ar23Na, 43Ca16O, 24Mg35Cl
ICP-OES 228.616 nm	0.01/0.001 µg/mL	1	
ICP-OES 237.862 nm	0.01/0.002 µg/mL	1	W, Re, Al, Ta
ICP-OES 238.892 nm	0.01/0.002 µg/mL	1	Fe, W, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000500	M	Eu	<	0.000500	O	Na		0.018534	M	Se	<	0.011000	M	Zn	0.003494
O	Al		0.000741	O	Fe		0.004342	M	Nb	<	0.000500	M	Si		0.111204	M	Zr	< 0.002000
M	As	<	0.011000	M	Ga	<	0.000500	M	Nd	<	0.000500	M	Sm	<	0.000500			
M	Au	<	0.010000	M	Gd	<	0.000500	M	Ni	<	0.007000	M	Sn	<	0.001000			
O	B		0.000503	M	Ge	<	0.004500	M	Os	<	0.001000	M	Sr		0.000243			
O	Ba		0.000381	M	Hf	<	0.000500	O	P	<	0.045000	M	Ta	<	0.000500			
O	Be		0.000046	M	Hg	<	0.000500	M	Pb	<	0.003000	M	Tb	<	0.000500			
M	Bi	<	0.000500	M	Ho	<	0.000500	M	Pd	<	0.000500	M	Te	<	0.005000			
O	Ca		0.058249	M	In	<	0.000500	M	Pr	<	0.000500	M	Th	<	0.000500			
M	Cd	<	0.000500	M	Ir	<	0.000500	M	Pt	<	0.000500	M	Ti	<	0.002500			
M	Ce	<	0.000500	O	K		0.029124	M	Rb	<	0.001000	M	Tl	<	0.000500			
M	Co	<	0.000500	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500			
M	Cr		0.000153	s	Li	<		M	Rh	<	0.000500	M	U	<	0.000500			
M	Cs	<	0.000500	M	Lu	<	0.000500	M	Ru	<	0.000500	M	V		0.000953			
M	Cu	<	0.002000	O	Mg		0.011649	O	S		0.031772	M	W	<	0.001000			
M	Dy	<	0.000500	O	Mn		0.000164	M	Sb	<	0.003000	M	Y	<	0.000500			
M	Er	<	0.000500	M	Mo	<	0.000500	M	Sc	<	0.001500	M	Yb	<	0.000500			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 6.94 +1 (6) Li+(aq) large effective radius due to hydration sphere

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Li Containing Samples (Preparation and Solution) -Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of Li in sodium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 7 amu	10 ppt	n/a	
ICP-OES 323.261 nm	1.1 / 0.05 micro;g/mL	1	Sb, Th, Ni
ICP-OES 460.286 nm	0.9 / 0.04 µg/mL	1	Zr, Th
ICP-OES 670.784 nm	0.002 / 0.00002 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 11, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 11, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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F: 540-585-3012
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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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
Energy 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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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 $Mg(H_2O)_6^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, and H_2SO_4 avoid HF, H_3PO_4 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% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO_3 / LDPE container.

Mg Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); 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

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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:	TlNO3
Starting Material Lot#:	2118
Starting Material Purity:	99.9998%

ID #: 14693
Opened:
Thallium Single Analyte Custom Grade Solutic
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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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	Nd	<	0.000200	M	Sm	<	0.000200			
O	Au	<	0.002824	M	Gd	<	0.000200	M	Ni		0.000177	M	Sn	<	0.000601			
O	B	<	0.004184	M	Ge	<	0.000801	M	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 +1 6 Tl(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.

Tl Containing Samples (Preparation and Solution) -Metal (Best dissolved in HNO3 which forms chiefly the Tl1+ ion.); Oxide (The thallous oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 205 amu	2 ppt	N/A	189Os16O
ICP-OES 190.864 nm	0.04 / 0.004 µg/mL	1	V, Ti
ICP-OES 276.787 nm	0.1 / 0.01 µg/mL	1	Ta, V, Fe, Cr
ICP-OES 351.924 nm	0.2 / 0.02 µg/mL	1	Th, Ce, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 05, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 05, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112A 1000 PPB STANDARD
Standard Name 1000 PPB Standard
Type: Secondary
Date Prepared 1/12/2022
BY: Cindy Rohrer
Date Expires: 11/18/2022
Department ME
Status: Open
Vendor:
Lot Number:
Balance ID:

Comments: Made fresh daily

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.25	mL	6/1/2100

Final Volume:
50 mL

Stock Source		**Base Units**	**Amount Added**
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

Analytes	**CAS**	Conc:	**mg/L**

Page:*1 of 1*

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211208 MSCAL2B		
Standard Name	MSCAL 2B	Type:	Primary
Date Prepared	12/8/2021	BY:	Stacy R. Hendricks
Date Expires:	12/8/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB704403		
Balance ID:			
Comments:	Opened 12/08/2021; Expires 12/08/2022		

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**

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 21, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211118 MSCAL-5A		
Standard Name	EL-MSCAL-5A	Type:	Primary
Date Prepared	11/18/2021	BY:	Stacy R. Hendricks
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	P2-MEB687200		
Balance ID:			
Comments:	Opened 11/18/2021; Expires 11/18/2022		

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**

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

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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	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy 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 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 contentant. 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 chaine 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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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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			

Comments: Made Fresh Daily

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		**Base Units**	**Amount Added**
ME211221 MSCAL	MSCAL 3C	ug/mL	0.05 mL
ME211118 MSCAL	EL-MSCAL-5A	ug/mL	0.25 mL
ME220105 HgPrim	Primary Hg Stock 2 PPM	ug/mL	0.05 mL
ME211208 MSCAL	MSCAL 2B	ug/mL	0.05 mL
ME211229A AU 2n	Au 2nd source Stock	ug/mL	0.01 mL
ME220110 Ce, La	Ce, La Primary	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211221 MSCAL 3C		
Standard Name	MSCAL 3C	Type:	Primary
Date Prepared	12/21/2021	BY:	Stacy R. Hendricks
Date Expires:	12/21/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB700780		
Balance ID:			
Comments:	Opened 12/21/21; expires 12/21/22		

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**

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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, Titanium, Antimony

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

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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211118 MSCAL-5A		
Standard Name	EL-MSCAL-5A	Type:	Primary
Date Prepared	11/18/2021	BY:	Stacy R. Hendricks
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	P2-MEB687200		
Balance ID:			
Comments:	Opened 11/18/2021; Expires 11/18/2022		

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**

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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	Type:	Secondary
Date Prepared	1/5/2022	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			

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		**Base Units**	**Amount Added**
ME220110HG	HG Stock	ug/mL	0.05 mL
ME211229A AU 2N	Au 2nd source Stock	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**ug/mL**

Page:*1 of 1*

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220110HG		
Standard Name	HG Stock	Type:	Primary
Date Prepared	1/10/2022	BY:	Amanda E. McDani
Date Expires:	1/10/2023		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S210729017		
Balance ID:			

Comments:

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

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% HNO_3 (See Section 3 for actual matrix)
Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

Hg

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) HNO_3**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	**0.0322**	Nd	<0.0010	Sn	<0.0010
Al	**0.0042**	Ga	<0.0010	Ni	**0.0039**	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	**0.0117**
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	**0.0112**	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	**0.0060**	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	**0.0092**	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010	*: Not tested	

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
Certification Date: August 12, 2021

Daniel Boisvert

5.0 INTENDED USE / *UTILISATION PRÉVUE*:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des 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 contentant. 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 chaine 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:	ME211229A AU 2ND SOURCE		
Standard Name	Au 2nd source Stock	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENC
Providing Innovative Solutions to Analytical

Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211208 MSCAL2B		
Standard Name	MSCAL 2B	Type:	Primary
Date Prepared	12/8/2021	BY:	Stacy R. Hendricks
Date Expires:	12/8/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB704403		
Balance ID:			
Comments:	Opened 12/08/2021; Expires 12/08/2022		

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**

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 21, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211229A AU 2ND SOURCE		
Standard Name	Au 2nd source Stock	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENC
Providing Innovative Solutions to Analytical

Certificate of Analysis

Au

1.0 DESCRIPTION: ***Plasma*CAL 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 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 contentant. 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 chaine 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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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220110 CE, LA PRIMARY		
Standard Name	Ce, La Primary	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		**Base Units**	**Amount Added**
ME220106-CE	Ce Primary Stock	ug/mL	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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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		**Base Units**	**Amount Added**
ME211221 MSCAL	MSCAL 3C	ug/mL	0.05 mL
ME211118 MSCAL	EL-MSCAL-5A	ug/mL	0.25 mL
ME220105 HgPrim	Primary Hg Stock 2 PPM	ug/mL	0.05 mL
ME211208 MSCAL	MSCAL 2B	ug/mL	0.05 mL
ME211229A AU 2n	Au 2nd source Stock	ug/mL	0.01 mL
ME220110 Ce, La	Ce, La Primary	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211221 MSCAL 3C		
Standard Name	MSCAL 3C	Type:	Primary
Date Prepared	12/21/2021	BY:	Stacy R. Hendricks
Date Expires:	12/21/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB700780		
Balance ID:			
Comments:	Opened 12/21/21; expires 12/21/22		

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**

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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, Titanium, Antimony

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

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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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**

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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211118 MSCAL-5A		
Standard Name	EL-MSCAL-5A	Type:	Primary
Date Prepared	11/18/2021	BY:	Stacy R. Hendricks
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	P2-MEB687200		
Balance ID:			
Comments:	Opened 11/18/2021; Expires 11/18/2022		

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**

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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	Type:	Secondary
Date Prepared	1/5/2022	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			

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		**Base Units**	**Amount Added**
ME220110HG	HG Stock	ug/mL	0.05 mL
ME211229A AU 2N	Au 2nd source Stock	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**ug/mL**

Page:*1 of 1*

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:

Type: Primary
BY: Amanda E. McDani
Status: Open

Comments:

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

1.0 DESCRIPTION:

*Plasma*CAL 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% HNO_3 (See Section 3 for actual matrix)
Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

Hg

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) HNO_3**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	**0.0322**	Nd	<0.0010	Sn	<0.0010
Al	**0.0042**	Ga	<0.0010	Ni	**0.0039**	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	**0.0117**
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	**0.0112**	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	**0.0060**	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	**0.0092**	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010	*: Not tested	

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
Certification Date: August 12, 2021

Daniel Boisvert

5.0 INTENDED USE / *UTILISATION PRÉVUE*:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des 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 contentant. 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 chaine 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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Marktoberdorf
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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	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENC
Providing Innovative Solutions to Analytical

Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211208 MSCAL2B		
Standard Name	MSCAL 2B	Type:	Primary
Date Prepared	12/8/2021	BY:	Stacy R. Hendricks
Date Expires:	12/8/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB704403		
Balance ID:			
Comments:	Opened 12/08/2021; Expires 12/08/2022		

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**

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 21, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211229A AU 2ND SOURCE		
Standard Name	Au 2nd source Stock	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

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Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220110 CE, LA PRIMARY		
Standard Name	Ce, La Primary	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		**Base Units**	**Amount Added**
ME220106-CE	Ce Primary Stock	ug/mL	5 mL

Analytes	**CAS**	Conc:	**ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220112 10 PPB STANDARD		
Standard Name	10 ppb Standard	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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	**Base Units**	**Amount Added**
ME220112 100 PP 100 ppb Standard	ug/mL	5 mL

Analytes	**CAS**	Conc:	**mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220112 1 PPB STANDARD		
Standard Name	1 ppb Standard	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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	**Base Units**	**Amount Added**
ME220112 10 PPB 10 ppb Standard	ug/mL	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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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	**Base Units**	**Amount Added**
ME220112 10 PPB 10 ppb Standard	ug/mL	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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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		**Base Units**	**Amount Added**
ME220112 1 PPB	1 ppb Standard	ug/mL	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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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		**Base Units**	**Amount Added**
ME220112 0.5 PP	0.5 ppb Standard	ug/mL	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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Cindy Rohrer
Date Expires:	11/18/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			
Comments:	Made Fresh Daily		

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		**Base Units**	**Amount Added**
ME220112 0.5 PP	0.5 ppb Standard	ug/mL	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:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Comments: Made fresh daily

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

Stock Source		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

Analytes	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:

Type: Secondary
BY: Alyssa A. Olson
Status: Open

Comments:

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		**Base Units**	**Amount Added**
ME200624A	U Stock	ug/mL	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:

Type: Primary
BY: Ron Hunt

Status: Empty/Disposed

Comments:

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**

Analytes **CAS** Conc: **ug/mL**

A Uranium 7440-61-1 1000

Page: *1 of 1*

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Certificate of Analysis

1.0 DESCRIPTION: ***Plasma*CAL 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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **April 2022** (or 15 months after bottle is opened, whichever comes first)

U

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_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 #: 12767
Opened:
PlasmaCal Standard Uranium
Expires: 4/30/2022
Rec'd: 6/15/2020
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 REFERENCE VALUES:

Density: **1.020 g/ml @ 21.7 °C**

Actual Matrix: **4.0% (v/v) HNO_3**

% abundance of stable isotopes : ^{238}U : 99.79% ; ^{235}U : 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 contentant. 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 chaine 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: +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:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Comments:

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	**Base Units**	**Amount Added**
ME 211025 Th Sec Th Seondary Stock	ug/mL	2.5 mL

Analytes	**CAS**	Conc:	**ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME 211025 TH SECONDARY STOCK		
Standard Name	Th Seondary Stock	Type:	Primary
Date Prepared	10/25/2021	BY:	Stacy R. Hendricks
Date Expires:	10/25/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-TH706436		
Balance ID:			
Comments:	Opened 10/25/2021; Expires 10/25/2022		

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**

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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inorganicventures.com

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 Solutic
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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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 <	0.000448	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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

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:

Type: Secondary
BY: Alyssa A. espinoza
Status: Open

Comments:

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		**Base Units**	**Amount Added**
ME210726	Hg Secondary Source	ug/mL	0.1 mL

Analytes	**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:

Type:
BY: Jordan A. Gjerde
Status: New

Comments:

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**

Analytes **CAS** Conc: **ug/mL**

Page: *1 of 1*

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.2799 - 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

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 Solutic
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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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:

Type: Primary
BY: Amanda E. McDani
Status: Open

Comments:

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**

Analytes **CAS** Conc: **ug/mL**

Page: *1 of 1*

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 follow ing 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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, 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

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME210817 ICV-1A		
Standard Name	EL-MSICV-1A	Type:	Primary
Date Prepared	8/17/2021	BY:	Alyssa A. espinoza
Date Expires:	8/17/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	R2-MEB688457		
Balance ID:			
Comments:	Opened 8/17/2021; Expires 8/17/2022		

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**
Analytes	**CAS**	Conc: **ug/mL**

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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 Callbration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	EL-MSICV-1A
Lot Number:	R2-MEB688457
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium,
	1 000 µg/mL ea: Phosphorus,
	500 µg/mL ea: Manganese, Iron, Aluminum,
	100 µg/mL ea: Arsenic, Boron, Barium, Cobalt, Chromium, Copper, Lithium, Nickel, Lead, Selenium, Strontium, Thallium, Vanadium, Zinc,
	50 µg/mL ea: Silver, Cadmium, Beryllium

ID #: 13475
Opened:_____
Multi Analyte Custom Grade Solution
Expires: 1/10/2024
Rec'd: 1/15/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	500.3 ± 1.8 µg/mL	Arsenic, As	100.0 ± 0.8 µg/mL
Barium, Ba	99.9 ± 0.4 µg/mL	Beryllium, Be	49.96 ± 0.33 µg/mL
Boron, B	100.0 ± 0.6 µg/mL	Cadmium, Cd	50.10 ± 0.22 µg/mL
Calcium, Ca	5 001 ± 20 µg/mL	Chromium, Cr	100.0 ± 0.6 µg/mL
Cobalt, Co	100.0 ± 0.5 µg/mL	Copper, Cu	100.1 ± 0.4 µg/mL
Iron, Fe	499.7 ± 2.1 µg/mL	Lead, Pb	100.1 ± 0.4 µg/mL
Lithium, Li	100.0 ± 0.4 µg/mL	Magnesium, Mg	5 000 ± 21 µg/mL
Manganese, Mn	499.8 ± 1.9 µg/mL	Nickel, Ni	100.1 ± 0.4 µg/mL
Phosphorus, P	1 000 ± 5 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Selenium, Se	100.1 ± 0.8 µg/mL	Silver, Ag	50.02 ± 0.22 µg/mL
Sodium, Na	5 000 ± 18 µg/mL	Strontium, Sr	100.1 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.7 µg/mL	Vanadium, V	99.9 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.4 µg/mL		

Density: 1.098 g/mL (measured at 20 ± 4 °C)

Assay Information:

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ I})^2 / (\Sigma(1/(u_{char\ I})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ I})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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

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

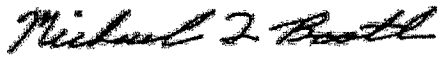
- Sealed outer Bag Open Date: _____

- 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	Type:	Secondary
Date Prepared	9/3/2021	BY:	Parker A. Pearsall
Date Expires:	5/25/2022		
Department	ME	Status:	Open
Vendor:			
Lot Number:			
Balance ID:			
Comments:	Second Source Stock Solution		

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		**Base Units**	**Amount Added**
ME210903 La Sec	La Secondary Stock	ug/mL	5 mL
ME210525 Ce 2nd	Ce Secondary Stock	ug/mL	5 mL

Analytes	**CAS**	Conc:	**ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME210903 LA SECOND SOURCE		
Standard Name	La Secondary Stock	Type:	Primary
Date Prepared	9/3/2021	BY:	Alyssa A. espinoza
Date Expires:	9/3/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S201029004		
Balance ID:			
Comments:	Opened 9/3/2021; Expires 9/3/2022		

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**

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **November 2022** (or 15 months after bottle is opened, whichever comes first)

La

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
Energy 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) HNO_3**

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 (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 contentant. 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 chaine 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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Villebon sur Yvette, France
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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf

Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME210525 CE 2ND SOURCE		
Standard Name	Ce Secondary Stock	Type:	Primary
Date Prepared	5/25/2021	BY:	Stacy R. Hendricks
Date Expires:	5/25/2022		
Department	ME	Status:	Empty/Disposed
Vendor:	SCP Science		
Lot Number:	S210208003		
Balance ID:			
Comments:	opened 5/25/2021, expires 5/25/2022		

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**

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Certificate of Analysis

1.0 DESCRIPTION:

***Plasma*CAL 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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **February 2023** (or 15 months after bottle is opened, whichever comes first)

Ce

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) HNO_3**

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 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 contentant. 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 chaine 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

GERMANY
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Marktoberdorf

Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID:	ME210901 ICSAB		
Standard Name	ICSAB	Type:	Secondary
Date Prepared	9/1/2021	BY:	Cindy Rohrer
Date Expires:	9/1/2022		
Department	ME	Status:	Open
Vendor:			
Lot Number:			
Balance ID:			

Comments: Made fresh every Monday, Wednesday, and Friday

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		**Base Units**	**Amount Added**
ME210901 6020IC	6020ICS-8A	ug/mL	2 mL
ME 210901 6020IC	6020ICS-9B	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME 210901 6020ICS-9B		
Standard Name	6020ICS-9B	Type:	Primary
Date Prepared	9/1/2021	BY:	Alyssa A. espinoza
Date Expires:	9/1/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	P2-MEB678862		
Balance ID:			
Comments:	Opened 9/1/2021; Expires 9/1/2022		

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**

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ I})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ I})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

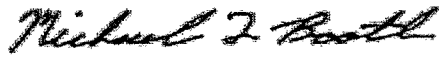
- Sealed TCT Bag Open Date: _____

- 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	Type:	Secondary
Date Prepared	1/12/2022	BY:	Stacy R. Hendricks
Date Expires:	12/8/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			

Comments:

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		**Base Units**	**Amount Added**
ME220105 HgPrim	Primary Hg Stock 2 PPM	ug/mL	2 mL
ME211208 MSCAL	MSCAL 2B	ug/mL	2 mL
ME211221 MSCAL	MSCAL 3C	ug/mL	2 mL
ME220110 Ce, La	Ce, La Primary	ug/mL	2 mL

Analytes	**CAS**	Conc:	**mg/L**

Energy Laboratories Inc

Spike LOG

Standard ID:	ME220105 HGPRIMARY		
Standard Name	Primary Hg Stock 2 PPM	Type:	Secondary
Date Prepared	1/5/2022	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:			
Balance ID:			

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		**Base Units**	**Amount Added**
ME220110HG	HG Stock	ug/mL	0.05 mL
ME211229A AU 2N	Au 2nd source Stock	ug/mL	0.05 mL

Analytes	**CAS**	Conc:	**ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID:	ME220110HG		
Standard Name	HG Stock	Type:	Primary
Date Prepared	1/10/2022	BY:	Amanda E. McDani
Date Expires:	1/10/2023		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S210729017		
Balance ID:			

Comments:

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

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Providing Innovative Solutions to Analytical Chemists

rtificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)
Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

Hg

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) HNO_3**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	**0.0322**	Nd	<0.0010	Sn	<0.0010
Al	**0.0042**	Ga	<0.0010	Ni	**0.0039**	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	**0.0117**
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	**0.0112**	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	**0.0060**	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	**0.0092**	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010	*: Not tested	

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
Certification Date: August 12, 2021

Daniel Boisvert

5.0 INTENDED USE / *UTILISATION PRÉVUE*:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des 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 contentant. 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 chaine 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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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	Type:	Primary
Date Prepared	12/29/2021	BY:	Amanda E. McDani
Date Expires:	12/29/2022		
Department	ME	Status:	Open
Vendor:	SCP Science		
Lot Number:	S211129013		
Balance ID:			
Comments:	opened 12/29/2021; expires 12/29/2022		

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
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

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Providing Innovative Solutions to Analytical

Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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Energy Laboratories Inc

Standard LOG

Standard ID:	ME211208 MSCAL2B		
Standard Name	MSCAL 2B	Type:	Primary
Date Prepared	12/8/2021	BY:	Stacy R. Hendricks
Date Expires:	12/8/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB704403		
Balance ID:			
Comments:	Opened 12/08/2021; Expires 12/08/2022		

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**

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.24 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 21, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R Gaines

Energy Laboratories Inc

Standard LOG

Standard ID:	ME211221 MSCAL 3C		
Standard Name	MSCAL 3C	Type:	Primary
Date Prepared	12/21/2021	BY:	Stacy R. Hendricks
Date Expires:	12/21/2022		
Department	ME	Status:	Open
Vendor:	Inorganic Ventures		
Lot Number:	S2-MEB700780		
Balance ID:			
Comments:	Opened 12/21/21; expires 12/21/22		

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**

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

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, Titanium, Antimony

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

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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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		**Base Units**	**Amount Added**
ME220106-CE	Ce Primary Stock	ug/mL	5 mL

Analytes	**CAS**	Conc:	**ug/mL**

Page:*1 of 1*

Energy Laboratories Inc

Spike LOG

Standard ID: ME220112 7900 INTERNAL STANDARD
Standard Name: Internal Standards 2 mg/L
Type: Secondary
Date Prepared: 1/12/2022
BY: Cindy Rohrer
Date Expires: 2/8/2022
Department: ME
Status: Open
Vendor:
Lot Number:
Balance ID:

Comments:

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Hydrochloric Acid E1421	14721	10	mL	1/4/2
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/
Lutetium Single Analyte Atomic Absorp	13444	2	mL	3/1/2
Terbium Single Analyte Atomic Absorp	13445	2	mL	2/12/
Indium Single Analyte Custom Grade	13654	2	mL	5/29/
PlasmaCal Standard Bismuth	14230	2	mL	3/31/
ICP/ICPMS Standard Scandium	13641	2	mL	8/31/
ICP/ICPMS Standard Gold	14710	0.2	mL	12/29

Final Volume: 1000 mL

Stock Source **Base Units** **Amount Added**

Analytes **CAS** Conc: **mg/L**

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION:

_Plasma_CAL 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: H_2O / tr. F^-

Ge

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 a 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
Energy 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 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 contentant. 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 chaine 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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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 Soluti
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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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 Ho(OH)x(H2O)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 l(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 165 amu	1 ppt	n/a	149 Sm16O
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

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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

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 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 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 Soluti
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 Lu(OH)x(H2O)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

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com
tel: 800.669.6799 · 540.585.3030
fax: 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 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
Energy 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, H_2SO_4 and HNO_3. Avoid HF, H_3PO_4 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% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2 - 5% HNO_3 / LDPE container.

Tb Containing Samples (Preparation and Solution) -Metal (Soluble in acids); Oxide (Dissolve by heating in H_2O/ HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (dry ash and dissolve in 1:1 H_2O / HCl or HNO_3).

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 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 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 19, 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

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN1
Lot Number:	R2-IN693030
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2249
Starting Material Purity:	99.9997%

ID #: 13654
Opened:_____
Indium Single Analyte Custom Grade Solution
Expires: 5/29/2024
Rec'd: 3/18/2021
Energy Laboratories Inc 1120 So 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**998 ± 6 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**1001 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**1002 ± 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:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 (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	<		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	<		M	Pr	<	0.000670	M	Th	<	0.000670				
M	Cd	<	0.000670	M	Ir	<	0.000670	M	Pt	<	0.000670	O	Ti	<	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	<		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/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 - 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 Pt0 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/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 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

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)
Expiration Date (End of month): **March 2023** (or 15 months after bottle is opened, whichever comes first)

Bi

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.

ID #: 14230
Opened:
PlasmaCal Standard Bismuth
Expires: 3/31/2023
Rec'd: 9/1/2021
Energy 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) HNO_3**

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 (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 contentant. 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 chaine 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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91140, Villebon-sur-Yvette

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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf

Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

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% HNO_3 (See Section 3 for actual matrix)

Expiration Date (End of month): **August 2022** (or 15 months after bottle is opened, whichever comes first)

Sc

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.

ID #: 13641
Opened:
ICP/ICPMS Standard Scandium
Expires: 8/31/2022
Rec'd: 3/16/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 REFERENCE VALUES:

Density: **1.022 g/ml @ 22.5 °C**

Actual Matrix: **4.0% (v/v) HNO_3**

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 (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 contentant. 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 chaine 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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N.Y. 12919-4816

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Fax: +1 (800) 253-5549

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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf

Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

ID #: 14710
Opened:
ICP/ICPMS Standard Gold
Expires: 12/31/2023
Rec'd: 12/29/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENC
Providing Innovative Solutions to Analytical

Certificate of Analysis

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml

Au

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 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 contentant. 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 chaine 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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