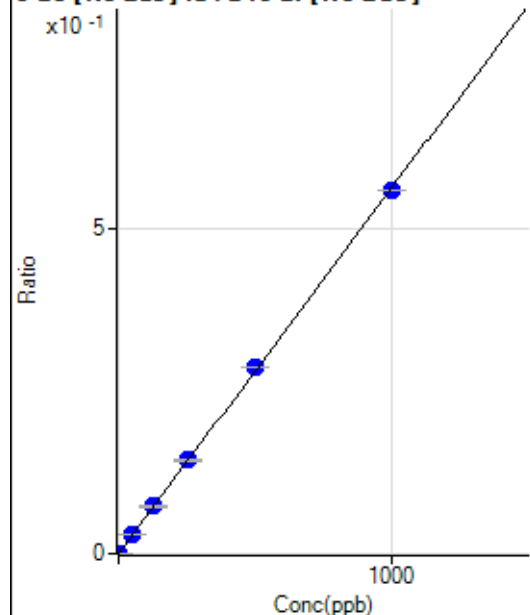


Calibration for 004CALS.d

Batch Folder: D:\ICP-MS Data\P7100819-MS.b\
 Analysis File: P7100819-MS.batch.bin
 DA Date-Time: 2019-10-08 21:57:58
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2019-10-08 11:41:11
2	004CALS.d	S01	2019-10-08 11:44:45
3	005CALS.d	S02	2019-10-08 11:49:26
4	006CALS.d	S03	2019-10-08 11:53:20
5	007CALS.d	S04	2019-10-08 11:57:15
6	008CALS.d	S05	2019-10-08 12:01:03
7	009CALS.d	S06	2019-10-08 12:04:51
8	010CALS.d	S07	2019-10-08 12:08:36
9	011CALS.d	S08	2019-10-08 12:12:20

9 Be [No Gas] ISTD:6 Li [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.74	0.0000	P	39.6
2	☐	0.100	0.087	248.16	0.0001	P	5.9
3	☐	1.000	1.012	1933.51	0.0006	P	4.4
4	☐	50.000	51.580	91383.02	0.0290	P	1.7
5	☐	125.000	129.315	222620.93	0.0727	P	1.0
6	☐	250.000	255.686	428899.84	0.1438	P	1.2
7	☐	500.000	510.997	841304.76	0.2874	P	0.4
8	☐	1000.000	992.462	1565520.46	0.5582	P	0.1
9	☐			437.06	0.0002	P	19.2

$$y = 5.6236\text{E-}004 * x + 2.7874\text{E-}005$$

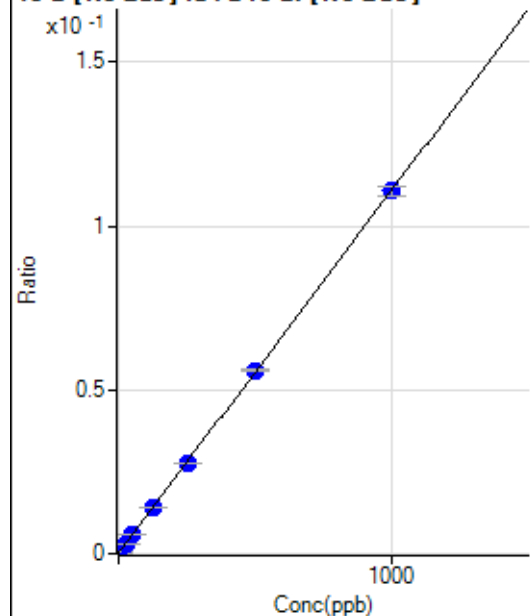
$$R = 0.9999$$

$$DL = 0.05881$$

$$BEC = 0.04957$$

Weight: <None>

Min Conc: 0

10 B [No Gas] ISTD:6 Li [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.58	0.0001	P	11.0
2	☐	2.500	2.443	1252.88	0.0004	P	14.4
3	☐	25.000	23.303	8727.87	0.0027	P	0.7
4	☐	50.000	49.676	17669.21	0.0056	P	1.2
5	☐	125.000	124.687	42580.29	0.0139	P	1.4
6	☐	250.000	247.847	82137.00	0.0275	P	1.1
7	☐	500.000	503.280	163365.41	0.0558	P	1.3
8	☐	1000.000	998.996	310319.68	0.1107	P	2.6
9	☐			11176.81	0.0044	P	7.0

$$y = 1.1065\text{E-}004 * x + 1.1705\text{E-}004$$

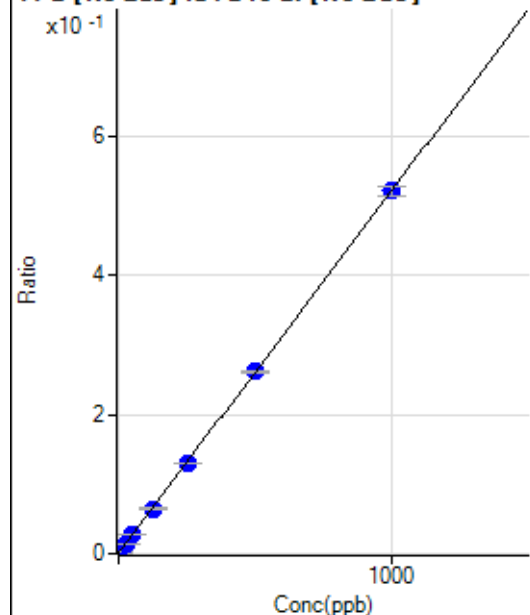
$$R = 1.0000$$

$$DL = 0.3501$$

$$BEC = 1.058$$

Weight: <None>

Min Conc: 0

11 B [No Gas] ISTD:6 Li [No Gas]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2308.60	0.0007	P	6.7
2	☐	2.500	2.205	6004.20	0.0019	P	3.5
3	☐	25.000	23.283	41505.40	0.0128	P	2.6
4	☐	50.000	49.406	83108.85	0.0264	P	1.4
5	☐	125.000	123.187	198224.49	0.0648	P	1.4
6	☐	250.000	247.684	386283.92	0.1295	P	1.2
7	☐	500.000	501.807	766074.78	0.2617	P	1.2
8	☐	1000.000	999.976	1460462.27	0.5208	P	2.7
9	☐			52667.81	0.0208	P	7.1

$$y = 5.2009\text{E-}004 * x + 7.1001\text{E-}004$$

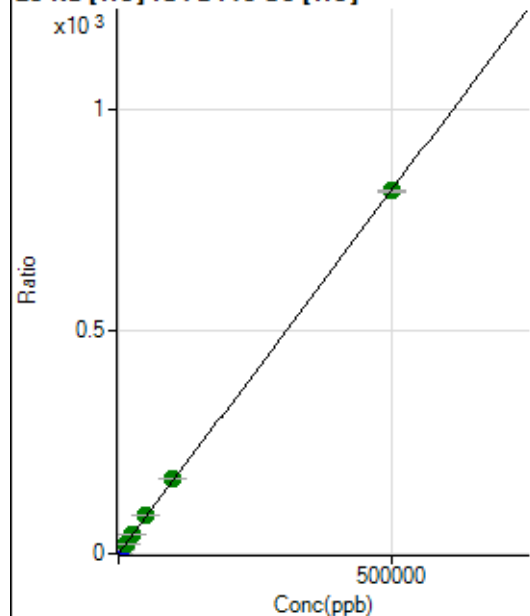
$$R = 1.0000$$

$$DL = 0.2742$$

$$BEC = 1.365$$

Weight: <None>

Min Conc: 0

23 Na [He] ISTD:45 Sc [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11543.73	0.0470	P	2.7
2	☐	50.000	47.419	30312.09	0.1245	P	2.4
3	☐	500.000	504.519	211391.19	0.8713	P	0.4
4	☐	5000.000	5220.921	2023507.73	8.5777	P	0.3
5	☐	12500.000	12989.311	4852514.00	21.2708	A	1.0
6	☐	25000.000	26133.275	9643093.79	42.7474	A	0.7
7	☐	50000.000	52263.499	18968465.18	85.4428	A	0.2
8	☐	100000.00	102736.99	36048993.86	167.9138	A	0.4
9	☐	500000.00	499155.14	175042441.4	815.6399	A	0.7

$$y = 0.0016 * x + 0.0470$$

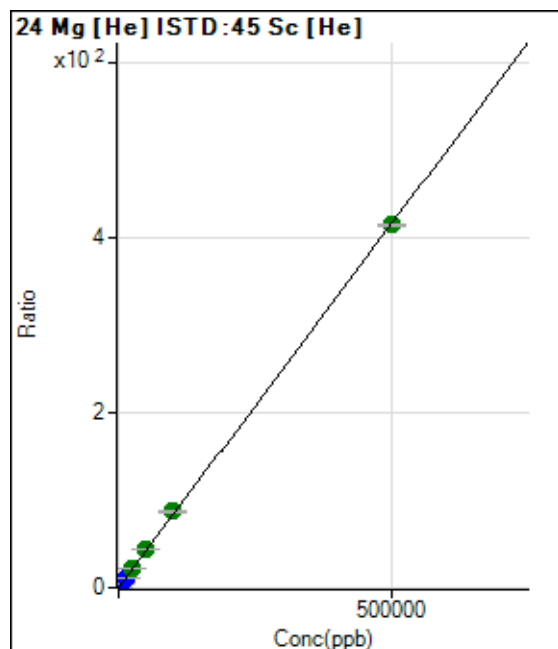
$$R = 1.0000$$

$$DL = 2.333$$

$$BEC = 28.76$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	305.57	0.0012	P	5.5
2	☐	50.000	49.741	10373.46	0.0426	P	5.0
3	☐	500.000	531.861	107564.38	0.4434	P	0.1
4	☐	5000.000	5346.239	1048699.94	4.4455	P	0.6
5	☐	12500.000	13366.651	2535137.71	11.1127	P	1.0
6	☐	25000.000	26799.193	5025906.49	22.2790	A	0.2
7	☐	50000.000	53420.209	9858710.55	44.4086	A	0.6
8	☐	100000.00	104416.27	18634971.08	86.8008	A	0.2
9	☐	500000.00	498659.60	88959443.66	414.5290	A	0.9

$$y = 8.3128\text{E-}004 * x + 0.0012$$

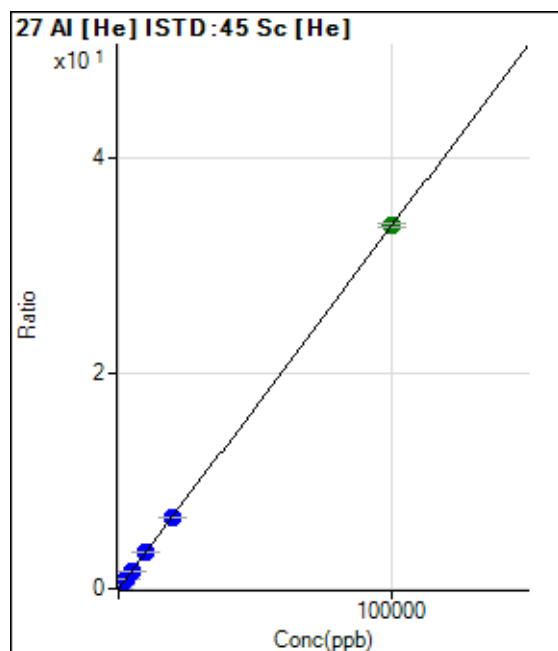
$$R = 0.9999$$

$$DL = 0.2464$$

$$BEC = 1.496$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.22	0.0002	P	26.7
2	☐	2.000	2.007	211.12	0.0009	P	29.7
3	☐	20.000	19.819	1664.04	0.0069	P	5.7
4	☐	1000.000	1019.283	80935.72	0.3431	P	1.6
5	☐	2500.000	2514.061	192997.99	0.8460	P	0.5
6	☐	5000.000	5013.415	380520.65	1.6868	P	0.4
7	☐	10000.000	10030.460	749165.81	3.3746	P	0.8
8	☐	20000.000	19667.712	1420524.67	6.6168	P	0.7
9	☐	100000.00	100062.19	7224347.82	33.6630	A	1.0

$$y = 3.3642\text{E-}004 * x + 1.9206\text{E-}004$$

$$R = 1.0000$$

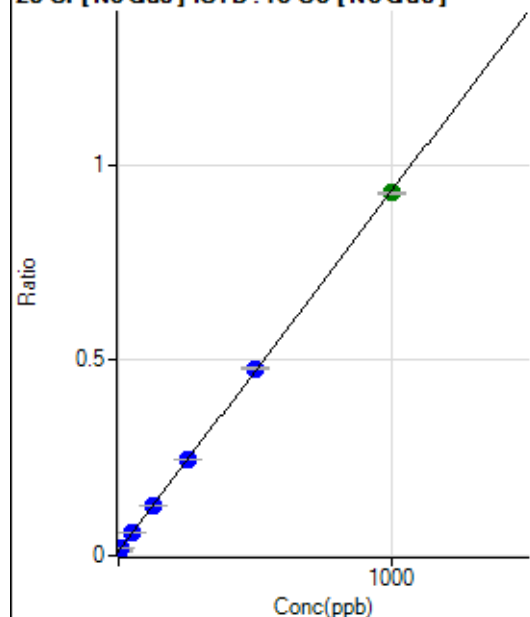
$$DL = 0.4569$$

$$BEC = 0.5709$$

Weight: <None>

Min Conc: 0

28 Si [No Gas] ISTD : 45 Sc [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76052.04	0.0121	P	1.6
2	☐	1.000	0.855	79528.23	0.0129	P	0.7
3	☐	10.000	8.085	121239.04	0.0196	P	0.8
4	☐	50.000	52.540	363791.80	0.0605	P	1.1
5	☐	125.000	127.526	765176.85	0.1295	P	0.7
6	☐	250.000	254.014	1418074.96	0.2460	P	0.8
7	☐	500.000	506.772	2721164.36	0.4787	P	1.6
8	☐	1000.000	995.187	5108076.50	0.9283	A	0.8
9	☐			149621.51	0.0293	P	1.9

$$y = 9.2056\text{E-}004 * x + 0.0121$$

$$R = 0.9999$$

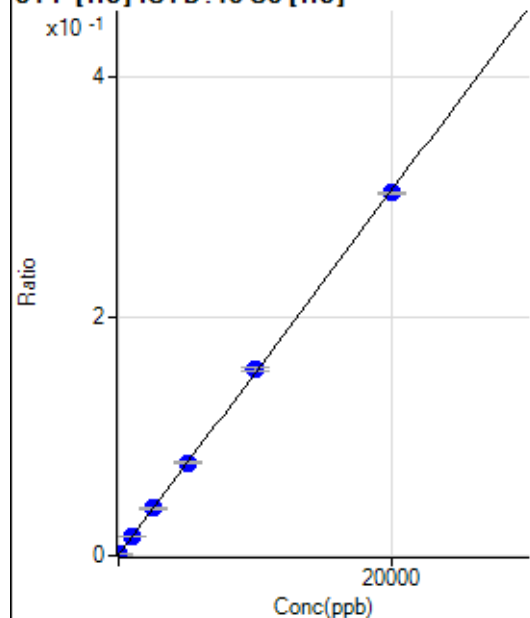
$$DL = 0.6516$$

$$BEC = 13.19$$

Weight: <None>

Min Conc: 0

31 P [He] ISTD : 45 Sc [He]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-19.924	63.89	0.0003	P	41.9
2	☐	0.000	-15.259	80.56	0.0003	P	53.3
3	☐	0.000	35.182	266.68	0.0011	P	30.0
4	☐	1000.000	1011.992	3770.08	0.0160	P	6.5
5	☐	2500.000	2583.809	9108.70	0.0399	P	3.2
6	☐	5000.000	5053.792	17496.95	0.0776	P	1.2
7	☐	10000.000	10219.713	34691.31	0.1563	P	1.8
8	☐	20000.000	19865.620	65101.14	0.3032	P	0.8
9	☐			63.89	0.0003	P	20.0

$$y = 1.5236\text{E-}005 * x + 5.6361\text{E-}004$$

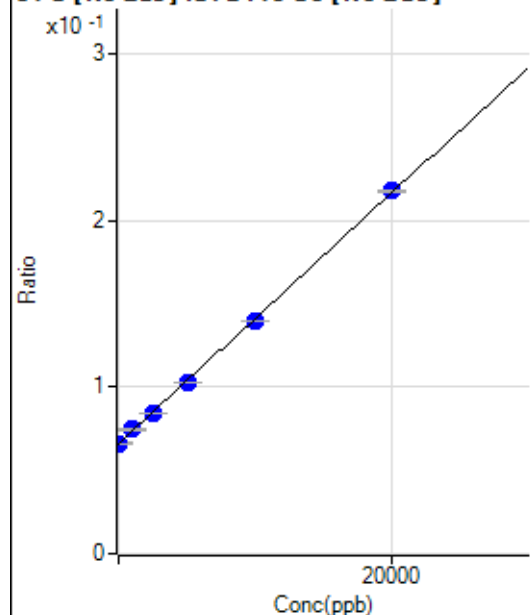
$$R = 0.9999$$

$$DL = 40.39$$

$$BEC = 36.99$$

Weight: <None>

Min Conc: 0

34 S [No Gas] ISTD:45 Sc [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.217	414097.15	0.0661	P	1.0
2	☐	0.000	-6.675	406357.39	0.0661	P	0.6
3	☐	0.000	6.458	409555.74	0.0662	P	0.3
4	☐	1000.000	1102.165	447288.81	0.0744	P	0.6
5	☐	2500.000	2387.961	496531.69	0.0841	P	0.3
6	☐	5000.000	4850.815	591327.18	0.1026	P	0.3
7	☐	10000.000	9792.636	794289.05	0.1397	P	0.4
8	☐	20000.000	20149.875	1197180.89	0.2176	P	0.6
9	☐			346889.69	0.0678	P	0.4

$$y = 7.5160\text{E-}006 * x + 0.0661$$

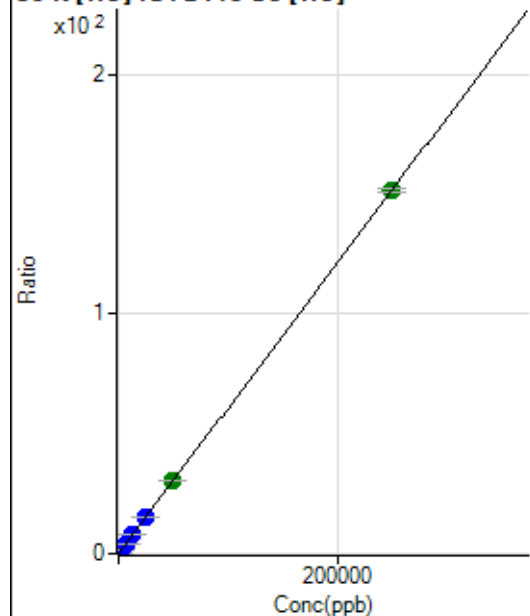
R = 0.9999

DL = 172.6

BEC = 8796

Weight: <None>

Min Conc: 0

39 K [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9978.76	0.0406	P	2.7
2	☐	50.000	48.345	17013.18	0.0699	P	2.2
3	☐	500.000	493.649	82297.90	0.3392	P	1.2
4	☐	2500.000	2530.821	370725.95	1.5715	P	0.7
5	☐	6250.000	6361.649	887165.14	3.8888	P	0.6
6	☐	12500.000	12734.525	1746925.86	7.7437	P	0.4
7	☐	25000.000	25427.613	3423647.17	15.4218	P	0.3
8	☐	50000.000	49760.883	6470887.47	30.1410	A	0.3
9	☐	250000.00	249990.24	32461321.21	151.2599	A	1.0

$$y = 6.0490\text{E-}004 * x + 0.0406$$

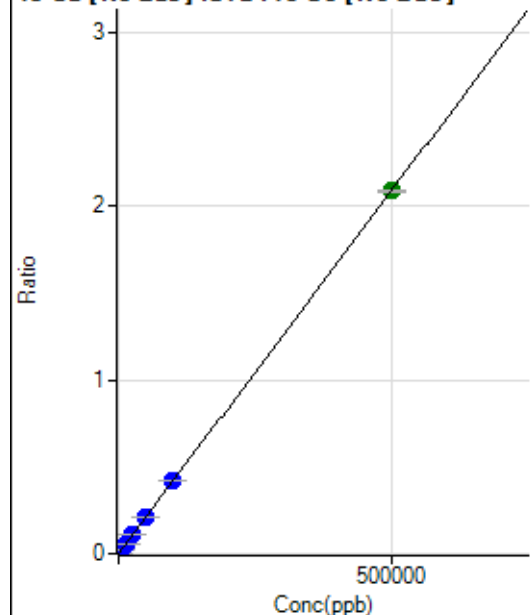
R = 1.0000

DL = 5.369

BEC = 67.14

Weight: <None>

Min Conc: 0

43 Ca [No Gas] ISTD:45 Sc [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	144.45	0.0000	P	23.4
2	☐	50.000	49.788	1422.35	0.0002	P	4.4
3	☐	500.000	496.229	12986.69	0.0021	P	4.9
4	☐	5000.000	5034.116	126683.05	0.0211	P	0.9
5	☐	12500.000	12598.113	311267.86	0.0527	P	0.8
6	☐	25000.000	25401.540	612403.21	0.1062	P	0.4
7	☐	50000.000	50719.740	1205723.74	0.2121	P	0.3
8	☐	100000.00	100573.40	2314082.41	0.4205	P	0.4
9	☐	500000.00	499790.47	10686139.39	2.0896	A	0.6

$$y = 4.1809\text{E-}006 * x + 2.3067\text{E-}005$$

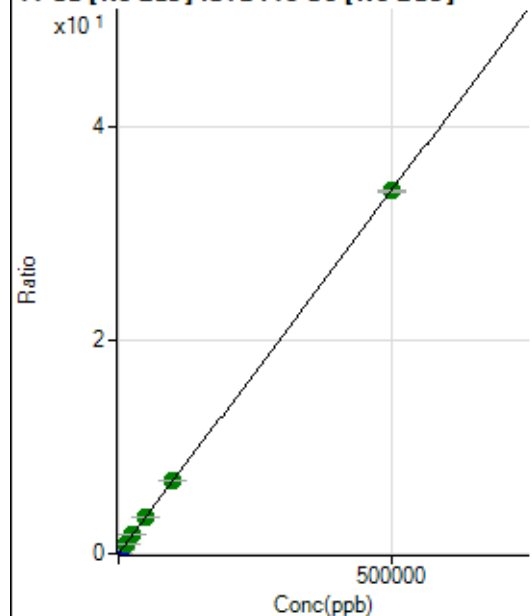
$$R = 1.0000$$

$$DL = 3.88$$

$$BEC = 5.517$$

Weight: <None>

Min Conc: 0

44 Ca [No Gas] ISTD:45 Sc [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5198.34	0.0008	P	3.6
2	☐	50.000	51.548	26685.93	0.0043	P	0.7
3	☐	500.000	489.798	211494.58	0.0342	P	1.1
4	☐	5000.000	5072.022	2080488.24	0.3460	P	0.4
5	☐	12500.000	12529.823	5042239.91	0.8536	A	0.4
6	☐	25000.000	25284.147	9925699.00	1.7216	A	0.1
7	☐	50000.000	50895.863	19698087.59	3.4648	A	0.1
8	☐	100000.00	101405.63	37982931.40	6.9024	A	0.6
9	☐	500000.00	499613.62	173908065.0	34.0041	A	0.7

$$y = 6.8059\text{E-}005 * x + 8.2990\text{E-}004$$

$$R = 1.0000$$

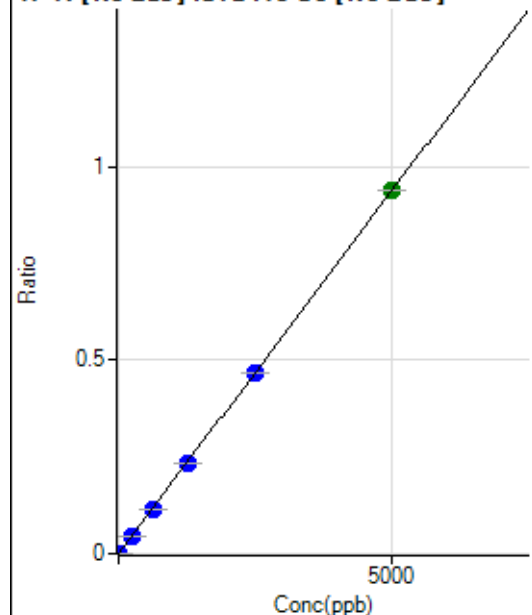
$$DL = 1.315$$

$$BEC = 12.19$$

Weight: <None>

Min Conc: 0

47 Ti [No Gas] ISTD :45 Sc [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	86.12	0.0000	P	34.0
2	☐	0.500	0.445	597.26	0.0001	P	10.7
3	☐	5.000	5.133	6040.36	0.0010	P	1.2
4	☐	250.000	249.810	281583.22	0.0468	P	1.2
5	☐	625.000	618.364	684691.75	0.1159	P	0.2
6	☐	1250.000	1241.576	1341665.37	0.2327	P	0.4
7	☐	2500.000	2495.269	2658906.70	0.4677	P	0.6
8	☐	5000.000	5005.310	5162487.09	0.9381	A	0.2
9	☐			1947.43	0.0004	P	9.9

$$y = 1.8743\text{E-}004 * x + 1.3749\text{E-}005$$

$$R = 1.0000$$

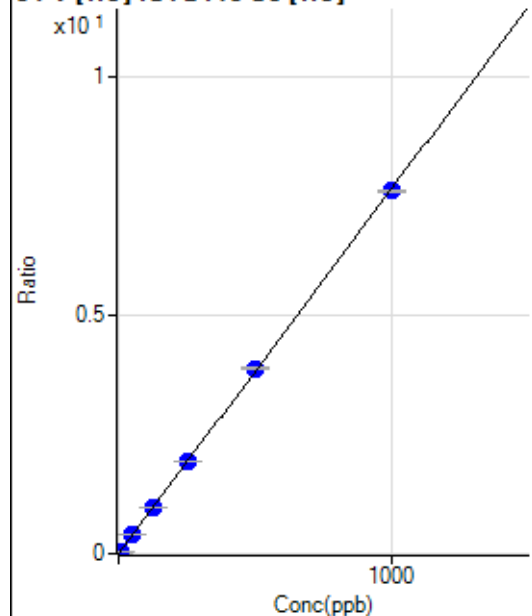
$$DL = 0.07474$$

$$BEC = 0.07336$$

Weight: <None>

Min Conc: 0

51 V [He] ISTD :45 Sc [He]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	16.67	0.0001	P	52.6
2	☐	0.500	0.476	905.60	0.0037	P	6.5
3	☐	5.000	5.135	9559.91	0.0394	P	1.2
4	☐	50.000	50.346	91009.46	0.3858	P	0.5
5	☐	125.000	126.768	221580.14	0.9713	P	1.3
6	☐	250.000	252.969	437221.07	1.9382	P	0.6
7	☐	500.000	508.580	865015.69	3.8965	P	0.9
8	☐	1000.000	994.729	1636149.72	7.6211	P	0.3
9	☐			473.35	0.0022	P	6.2

$$y = 0.0077 * x + 6.7764\text{E-}005$$

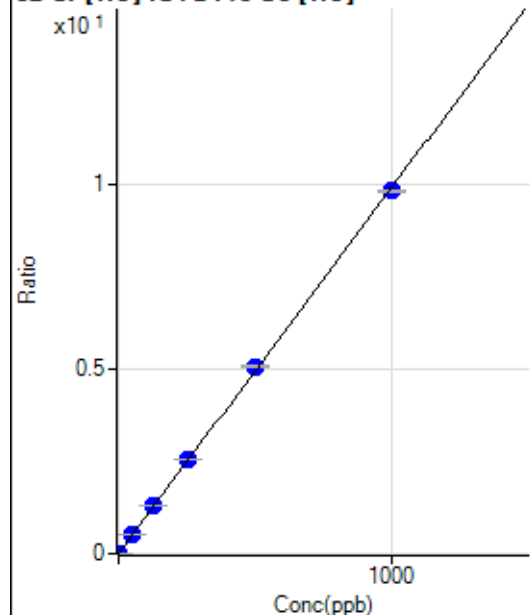
$$R = 0.9999$$

$$DL = 0.01395$$

$$BEC = 0.008845$$

Weight: <None>

Min Conc: 0

52 Cr [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	522.24	0.0021	P	6.7
2	☐	0.200	0.192	981.16	0.0040	P	5.5
3	☐	2.000	2.038	5411.08	0.0223	P	0.9
4	☐	50.000	51.663	121189.76	0.5137	P	0.4
5	☐	125.000	129.398	292807.47	1.2835	P	1.0
6	☐	250.000	256.732	573998.49	2.5444	P	0.4
7	☐	500.000	511.949	1125935.19	5.0718	P	0.5
8	☐	1000.000	991.710	2108783.82	9.8227	P	0.6
9	☐			75755.64	0.3530	P	1.9

$$y = 0.0099 * x + 0.0021$$

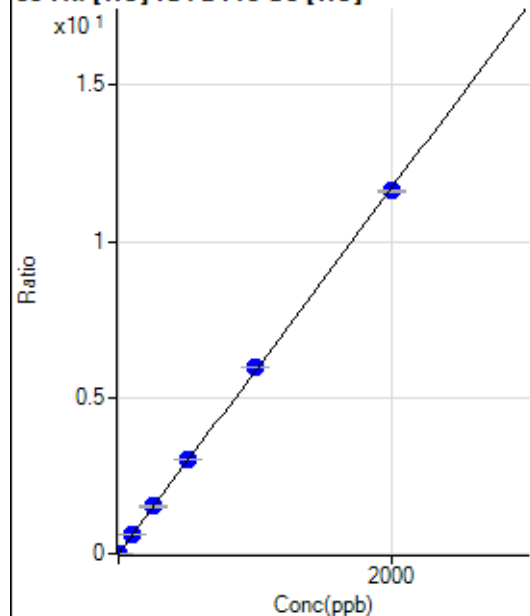
$$R = 0.9999$$

$$DL = 0.04331$$

$$BEC = 0.2146$$

Weight: <None>

Min Conc: 0

55 Mn [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	444.46	0.0018	P	5.8
2	☐	0.100					
3	☐	1.000	1.044	1921.27	0.0079	P	5.0
4	☐	100.000	103.607	143426.41	0.6080	P	0.4
5	☐	250.000	257.744	344451.87	1.5098	P	0.4
6	☐	500.000	514.412	679373.02	3.0116	P	0.5
7	☐	1000.000	1019.487	1324621.35	5.9667	P	0.1
8	☐	2000.000	1985.505	2494369.27	11.6187	P	0.7
9	☐			9184.09	0.0428	P	0.8

$$y = 0.0059 * x + 0.0018$$

$$R = 0.9999$$

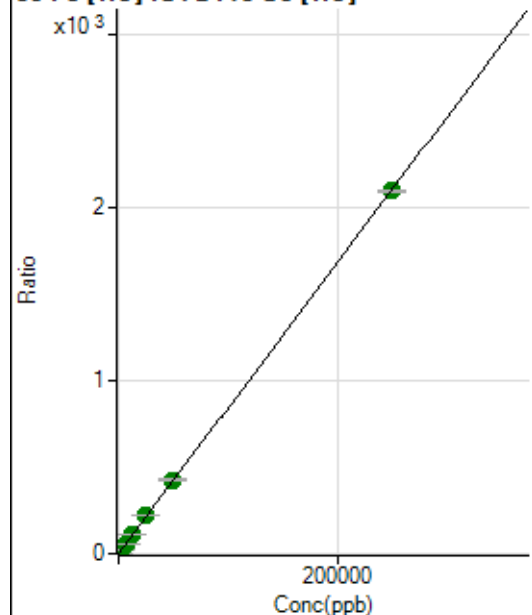
$$DL = 0.05342$$

$$BEC = 0.3092$$

Weight: <None>

Min Conc: 0

56 Fe [He] ISTD:45 Sc [He]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2290.98	0.0093	P	3.6
2	☐	5.000	4.726	11919.97	0.0489	P	5.4
3	☐	50.000	54.894	113897.18	0.4695	P	0.3
4	☐	2500.000	2634.844	5212498.03	22.0959	A	0.2
5	☐	6250.000	6586.169	12596701.21	55.2180	A	1.2
6	☐	12500.000	13089.963	24754432.03	109.7361	A	0.7
7	☐	25000.000	26139.047	48644028.87	219.1202	A	0.8
8	☐	50000.000	50944.045	91681918.72	427.0484	A	0.3
9	☐	250000.00	249658.03	449117154.4	2,092.770	A	0.7

$$y = 0.0084 * x + 0.0093$$

$$R = 1.0000$$

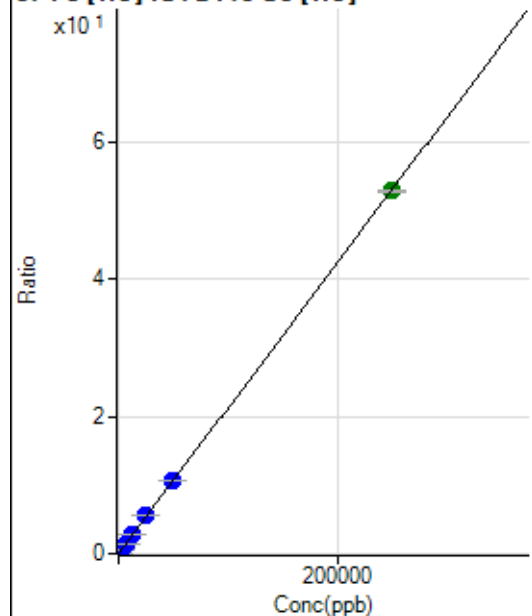
$$DL = 0.121$$

$$BEC = 1.112$$

Weight: <None>

Min Conc: 0

57 Fe [He] ISTD:45 Sc [He]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	59.26	0.0002	P	37.5
2	☐	5.000	5.510	342.61	0.0014	P	15.3
3	☐	50.000	56.971	2981.86	0.0123	P	1.0
4	☐	2500.000	2638.408	131705.77	0.5583	P	0.5
5	☐	6250.000	6606.072	318812.81	1.3975	P	1.4
6	☐	12500.000	13133.108	626701.97	2.7781	P	0.4
7	☐	25000.000	25973.629	1219683.25	5.4941	P	0.5
8	☐	50000.000	50630.310	2299138.56	10.7093	P	0.5
9	☐	250000.00	249734.63	11336047.94	52.8229	A	0.9

$$y = 2.1152E-004 * x + 2.4093E-004$$

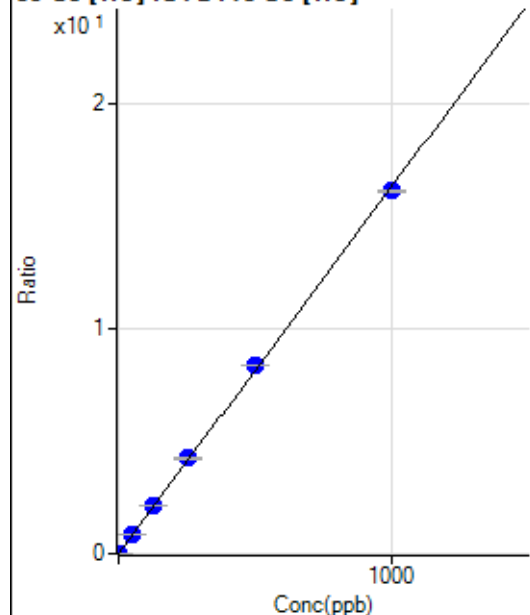
$$R = 1.0000$$

$$DL = 1.281$$

$$BEC = 1.139$$

Weight: <None>

Min Conc: 0

59 Co [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	94.44	0.0004	P	40.5
2	☐	0.100	0.098	481.13	0.0020	P	11.7
3	☐	1.000	1.033	4173.99	0.0172	P	2.3
4	☐	50.000	52.638	202303.65	0.8576	P	0.9
5	☐	125.000	131.759	489565.89	2.1460	P	1.1
6	☐	250.000	260.177	955829.57	4.2372	P	0.9
7	☐	500.000	514.867	1861407.49	8.3847	P	0.5
8	☐	1000.000	989.045	3457825.36	16.1065	P	0.6
9	☐			42191.80	0.1966	P	1.9

$$y = 0.0163 * x + 3.8388E-004$$

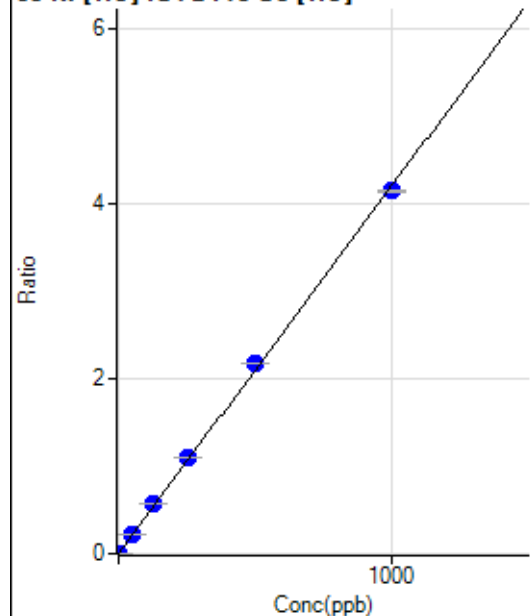
$$R = 0.9998$$

$$DL = 0.02867$$

$$BEC = 0.02357$$

Weight: <None>

Min Conc: 0

60 Ni [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	147.78	0.0006	P	13.9
2	☐	0.100	0.112	261.12	0.0011	P	13.6
3	☐	1.000	1.093	1258.96	0.0052	P	3.9
4	☐	50.000	53.171	52771.36	0.2237	P	1.0
5	☐	125.000	134.497	128883.44	0.5650	P	0.9
6	☐	250.000	262.798	248880.55	1.1033	P	1.0
7	☐	500.000	516.413	481184.71	2.1675	P	0.2
8	☐	1000.000	987.248	889461.63	4.1431	P	0.8
9	☐			29140.25	0.1358	P	0.5

$$y = 0.0042 * x + 6.0119E-004$$

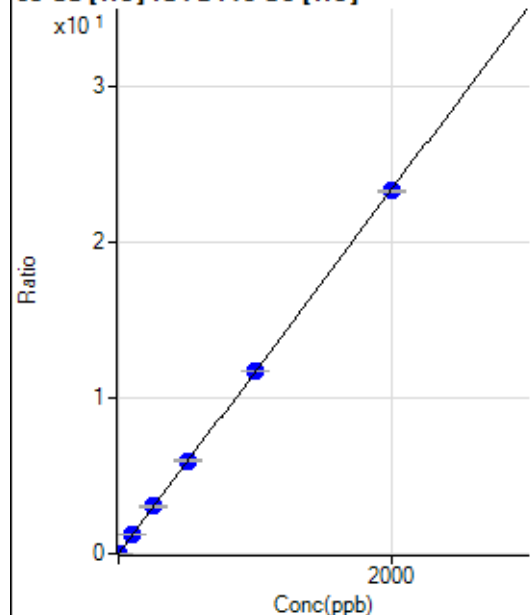
$$R = 0.9997$$

$$DL = 0.05981$$

$$BEC = 0.1433$$

Weight: <None>

Min Conc: 0

⁶³Cu [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	541.13	0.0022	P	6.0
2	☐	0.200	0.201	1108.95	0.0046	P	7.8
3	☐	2.000	2.022	6257.00	0.0258	P	1.9
4	☐	100.000	105.176	290011.12	1.2294	P	0.6
5	☐	250.000	259.450	691107.66	3.0294	P	1.3
6	☐	500.000	511.695	1347304.51	5.9726	P	0.8
7	☐	1000.000	1004.612	2602730.81	11.7239	P	0.3
8	☐	2000.000	1993.330	4993637.98	23.2602	P	0.4
9	☐			9378.68	0.0437	P	1.2

$$y = 0.0117 * x + 0.0022$$

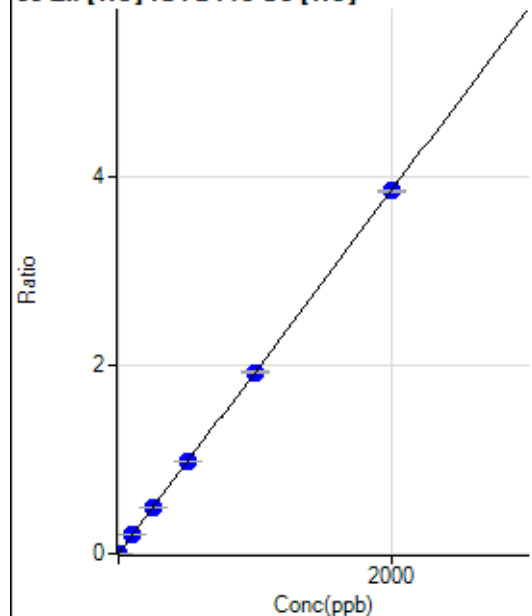
$$R = 1.0000$$

$$DL = 0.03381$$

$$BEC = 0.1888$$

Weight: <None>

Min Conc: 0

⁶⁶Zn [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	262.23	0.0011	P	4.9
2	☐	0.200	0.230	367.79	0.0015	P	14.3
3	☐	2.000	2.095	1236.74	0.0051	P	6.1
4	☐	100.000	104.704	47763.52	0.2025	P	0.8
5	☐	250.000	257.396	113201.34	0.4962	P	0.4
6	☐	500.000	508.232	220758.47	0.9787	P	1.7
7	☐	1000.000	999.556	427075.86	1.9238	P	0.6
8	☐	2000.000	1997.004	824911.84	3.8424	P	0.5
9	☐			10546.17	0.0491	P	0.8

$$y = 0.0019 * x + 0.0011$$

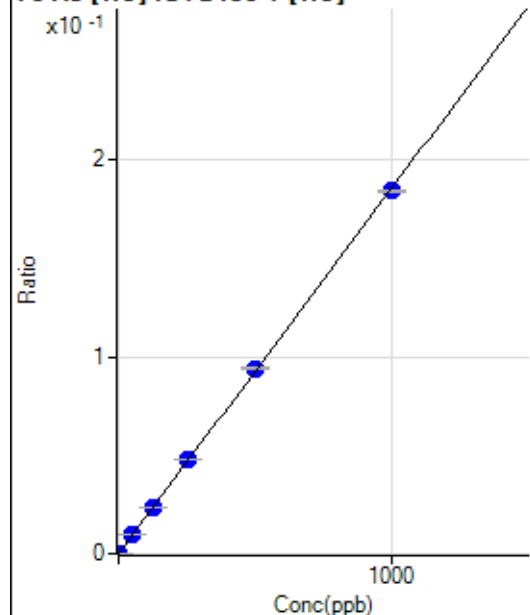
$$R = 1.0000$$

$$DL = 0.08187$$

$$BEC = 0.5549$$

Weight: <None>

Min Conc: 0

75 As [He] ISTD:89 Y [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	6.18	0.0000	P	17.8
2	☐	0.100	0.122	34.57	0.0000	P	24.8
3	☐	1.000	0.978	229.64	0.0002	P	10.5
4	☐	50.000	51.664	11495.97	0.0096	P	1.2
5	☐	125.000	127.961	27690.55	0.0237	P	0.1
6	☐	250.000	257.120	54987.96	0.0477	P	1.2
7	☐	500.000	508.195	107466.02	0.0942	P	0.7
8	☐	1000.000	993.669	203287.33	0.1842	P	0.5
9	☐			303.71	0.0003	P	9.6

$$y = 1.8539\text{E-}004 * x + 4.9029\text{E-}006$$

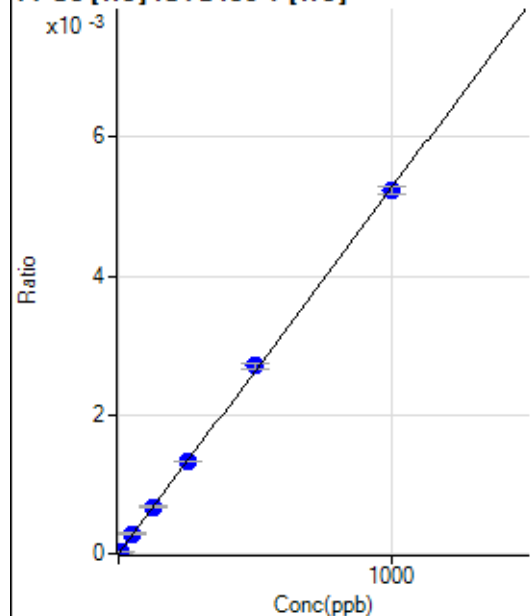
$$R = 0.9999$$

$$DL = 0.01412$$

$$BEC = 0.02645$$

Weight: <None>

Min Conc: 0

77 Se [He] ISTD:89 Y [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.2
2	☐	0.500	1.012	7.78	0.0000	P	108.1
3	☐	5.000	6.506	43.33	0.0000	P	7.2
4	☐	50.000	54.540	345.57	0.0003	P	7.1
5	☐	125.000	128.430	790.04	0.0007	P	3.3
6	☐	250.000	251.043	1525.66	0.0013	P	0.1
7	☐	500.000	513.567	3084.83	0.0027	P	3.1
8	☐	1000.000	992.292	5765.67	0.0052	P	2.0
9	☐			4.44	0.0000	P	114.4

$$y = 5.2649\text{E-}006 * x + 8.8536\text{E-}007$$

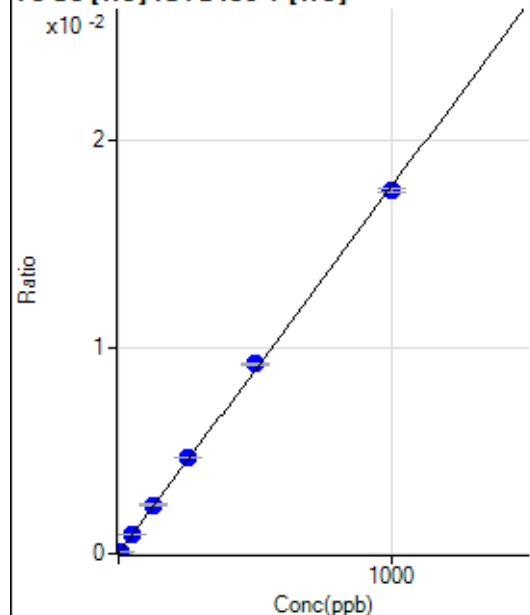
$$R = 0.9999$$

$$DL = 0.8738$$

$$BEC = 0.1682$$

Weight: <None>

Min Conc: 0

78 Se [He] ISTD:89 Y [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19.14	0.0000	P	15.0
2	☐	0.500	0.724	35.19	0.0000	P	13.8
3	☐	5.000	5.762	145.06	0.0001	P	1.0
4	☐	50.000	52.847	1145.74	0.0010	P	3.1
5	☐	125.000	131.880	2755.23	0.0024	P	4.3
6	☐	250.000	262.225	5397.34	0.0047	P	0.8
7	☐	500.000	515.907	10482.26	0.0092	P	1.3
8	☐	1000.000	987.984	19406.89	0.0176	P	1.2
9	☐			25.31	0.0000	P	10.4

$$y = 1.7785\text{E-}005 * x + 1.5186\text{E-}005$$

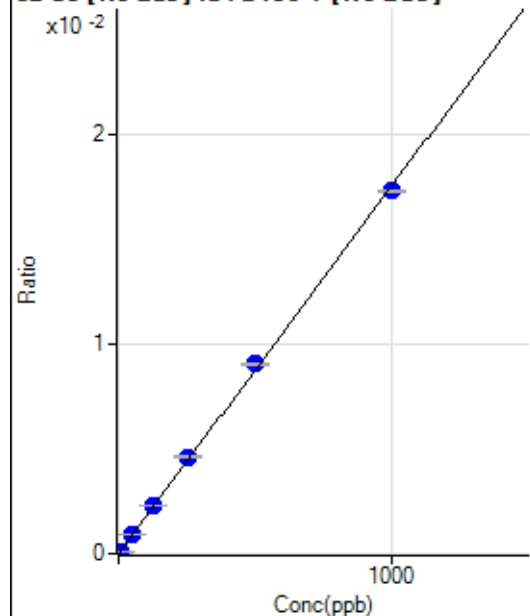
$$R = 0.9997$$

$$DL = 0.3841$$

$$BEC = 0.8539$$

Weight: <None>

Min Conc: 0

82 Se [No Gas] ISTD:89 Y [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21.75	0.0000	P	112.1
2	☐	0.500					
3	☐	5.000	5.006	988.92	0.0001	P	13.0
4	☐	50.000	52.774	9946.83	0.0009	P	1.2
5	☐	125.000	131.813	24291.56	0.0023	P	0.2
6	☐	250.000	263.590	47884.90	0.0046	P	0.7
7	☐	500.000	516.126	92546.57	0.0090	P	0.9
8	☐	1000.000	987.549	173608.29	0.0173	P	0.5
9	☐			-19.86	0.0000	P	-649.

$$y = 1.7527\text{E-}005 * x + 1.9482\text{E-}006$$

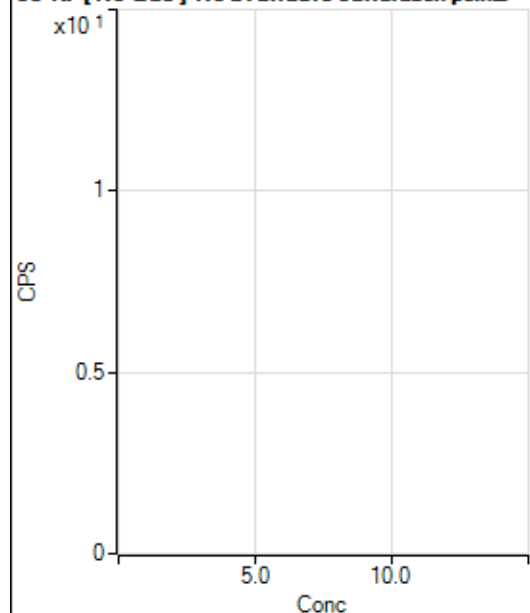
$$R = 0.9997$$

$$DL = 0.3739$$

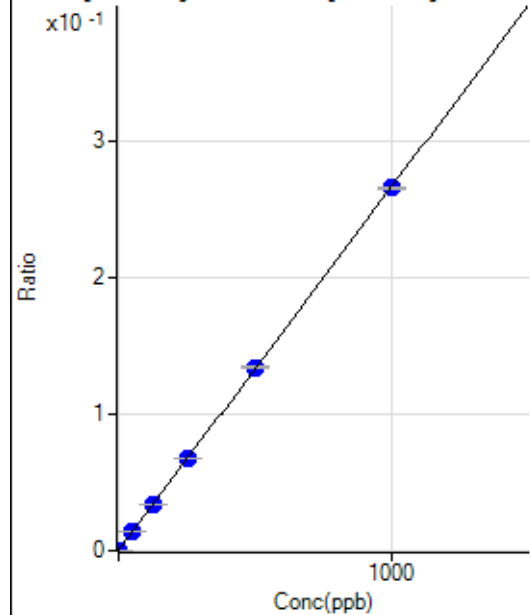
$$BEC = 0.1112$$

Weight: <None>

Min Conc: 0

83 Kr [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			1925.71		P	1.2
2	☐			1977.94		P	7.3
3	☐			1965.72		P	4.6
4	☐			1864.60		P	3.9
5	☐			1894.60		P	5.5
6	☐			1950.16		P	1.3
7	☐			1917.94		P	4.2
8	☐			1789.03		P	5.5
9	☐			1729.02		P	5.2

86 Sr [No Gas] ISTD : 89 Y [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	3094.90	0.0003	P	4.7
2	☐	0.100	0.148	3467.23	0.0003	P	3.4
3	☐	1.000	1.018	6029.27	0.0005	P	1.5
4	☐	50.000	50.555	147031.44	0.0137	P	0.8
5	☐	125.000	126.084	354644.67	0.0338	P	0.8
6	☐	250.000	253.009	698949.48	0.0675	P	0.6
7	☐	500.000	503.521	1370485.47	0.1340	P	0.4
8	☐	1000.000	997.324	2658964.12	0.2651	P	0.4
9	☐			12945.23	0.0014	P	2.2

$$y = 2.6555E-004 * x + 2.7638E-004$$

$$R = 1.0000$$

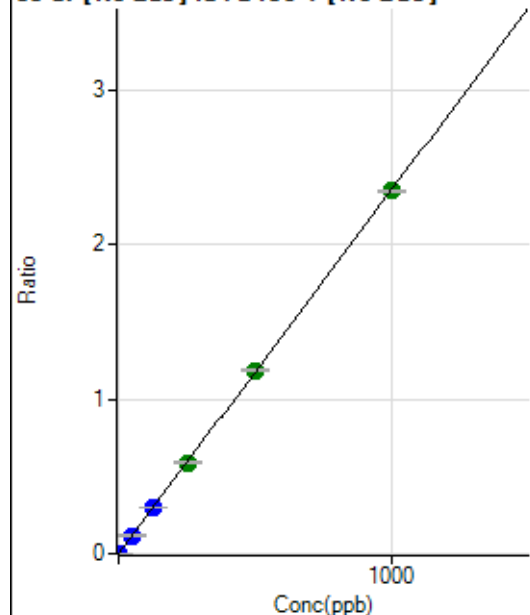
$$DL = 0.147$$

$$BEC = 1.041$$

Weight: <None>

Min Conc: 0

88 Sr [No Gas] ISTD: 89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	208.35	0.0000	P	22.4
2	☐	0.100	0.094	2644.81	0.0002	P	5.8
3	☐	1.000	0.963	25203.57	0.0023	P	1.0
4	☐	50.000	50.214	1267998.04	0.1182	P	0.4
5	☐	125.000	124.528	3078172.83	0.2930	P	0.1
6	☐	250.000	251.115	6121301.26	0.5908	A	0.4
7	☐	500.000	504.405	12138749.14	1.1868	A	0.4
8	☐	1000.000	997.567	23538610.94	2.3471	A	0.5
9	☐			90437.00	0.0098	P	1.0

$$y = 0.0024 * x + 1.8609E-005$$

$$R = 1.0000$$

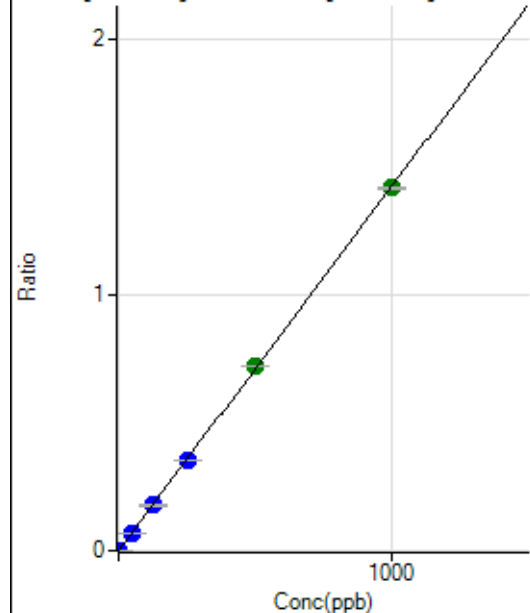
$$DL = 0.00531$$

$$BEC = 0.007909$$

Weight: <None>

Min Conc: 0

90 Zr [No Gas] ISTD: 89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	755.61	0.0001	P	1.1
2	☐	0.100	0.082	2022.44	0.0002	P	4.6
3	☐	1.000	0.872	14430.02	0.0013	P	3.2
4	☐	50.000	49.400	754878.23	0.0703	P	0.3
5	☐	125.000	124.216	1857139.10	0.1768	P	0.2
6	☐	250.000	249.007	3670805.51	0.3543	P	0.4
7	☐	500.000	506.903	7376761.19	0.7212	A	0.2
8	☐	1000.000	996.925	14223944.94	1.4183	A	0.5
9	☐			5001.09	0.0005	P	8.8

$$y = 0.0014 * x + 6.7466E-005$$

$$R = 1.0000$$

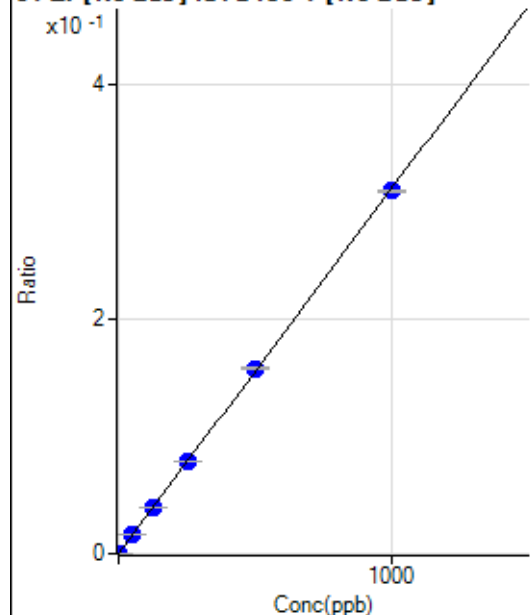
$$DL = 0.001502$$

$$BEC = 0.04742$$

Weight: <None>

Min Conc: 0

91 Zr [No Gas] ISTD: 89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	175.01	0.0000	P	5.4
2	☐	0.100	0.102	519.48	0.0000	P	6.2
3	☐	1.000	0.894	3242.17	0.0003	P	2.0
4	☐	50.000	50.666	169512.16	0.0158	P	0.3
5	☐	125.000	128.236	419762.31	0.0400	P	0.6
6	☐	250.000	254.918	822746.56	0.0794	P	0.2
7	☐	500.000	508.406	1619808.41	0.1584	P	0.6
8	☐	1000.000	994.130	3105556.34	0.3096	P	0.5
9	☐			1055.64	0.0001	P	2.1

$$y = 3.1146\text{E-}004 * x + 1.5630\text{E-}005$$

$$R = 0.9999$$

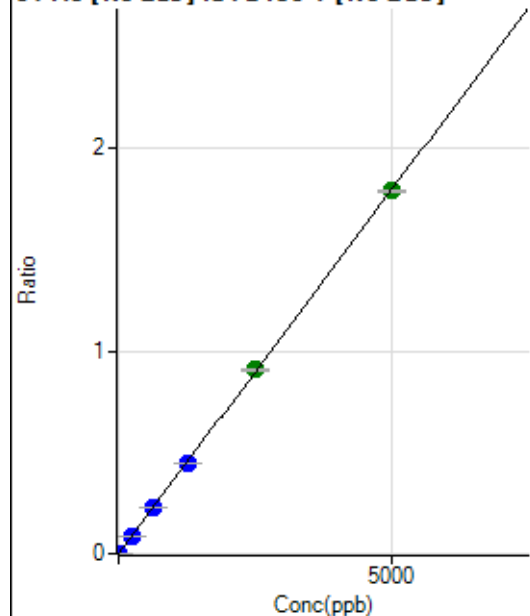
$$DL = 0.008124$$

$$BEC = 0.05018$$

Weight: <None>

Min Conc: 0

94 Mo [No Gas] ISTD: 89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.35	0.0000	P	18.7
2	☐	0.500	0.482	2178.05	0.0002	P	1.5
3	☐	5.000	4.607	18501.57	0.0017	P	0.8
4	☐	250.000	248.361	956156.19	0.0891	P	0.3
5	☐	625.000	625.695	2357723.10	0.2244	P	0.9
6	☐	1250.000	1243.124	4619443.77	0.4459	P	0.1
7	☐	2500.000	2528.534	9275952.12	0.9069	A	0.6
8	☐	5000.000	4987.447	17939518.46	1.7888	A	0.4
9	☐			14341.02	0.0015	P	4.2

$$y = 3.5865\text{E-}004 * x + 2.5281\text{E-}005$$

$$R = 1.0000$$

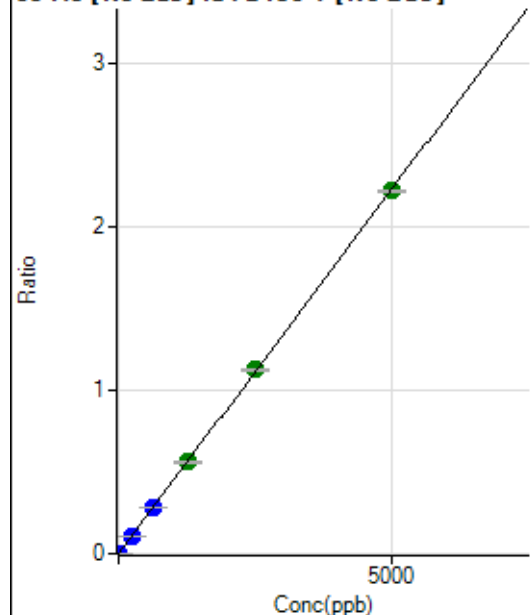
$$DL = 0.03948$$

$$BEC = 0.07049$$

Weight: <None>

Min Conc: 0

95 Mo [No Gas] ISTD:89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	94.45	0.0000	P	19.8
2	☐	0.500	0.476	2422.53	0.0002	P	8.2
3	☐	5.000	4.747	23433.99	0.0021	P	1.2
4	☐	250.000	249.498	1193808.04	0.1112	P	0.9
5	☐	625.000	628.482	2943696.01	0.2802	P	0.4
6	☐	1250.000	1256.204	5802574.22	0.5601	A	0.4
7	☐	2500.000	2532.302	11547637.32	1.1290	A	0.9
8	☐	5000.000	4981.888	22275745.46	2.2211	A	0.4
9	☐			22793.98	0.0025	P	1.0

$$y = 4.4583\text{E-}004 * x + 8.4278\text{E-}006$$

$$R = 1.0000$$

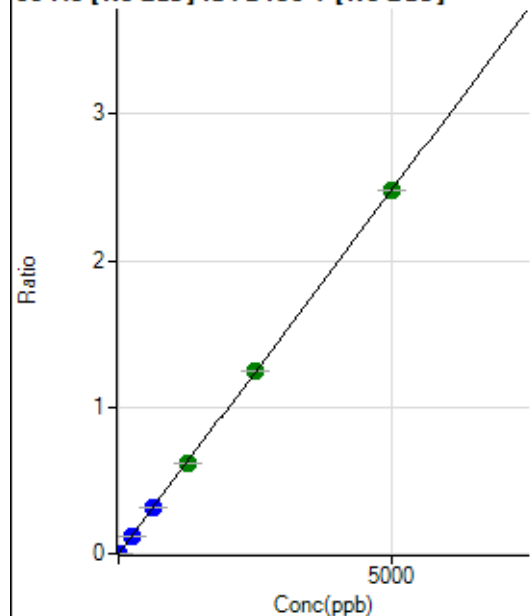
$$DL = 0.01124$$

$$BEC = 0.0189$$

Weight: <None>

Min Conc: 0

96 Mo [No Gas] ISTD:89 Y [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	175.01	0.0000	P	21.4
2	☐	0.500	0.460	2678.16	0.0002	P	1.7
3	☐	5.000	4.661	25657.20	0.0023	P	1.1
4	☐	250.000	247.208	1315277.83	0.1226	P	0.8
5	☐	625.000	624.391	3251847.27	0.3095	P	0.6
6	☐	1250.000	1246.571	6402447.67	0.6180	A	0.4
7	☐	2500.000	2516.266	12758900.11	1.2474	A	0.2
8	☐	5000.000	4992.940	24823701.94	2.4751	A	0.1
9	☐			24571.93	0.0027	P	4.1

$$y = 4.9572\text{E-}004 * x + 1.5640\text{E-}005$$

$$R = 1.0000$$

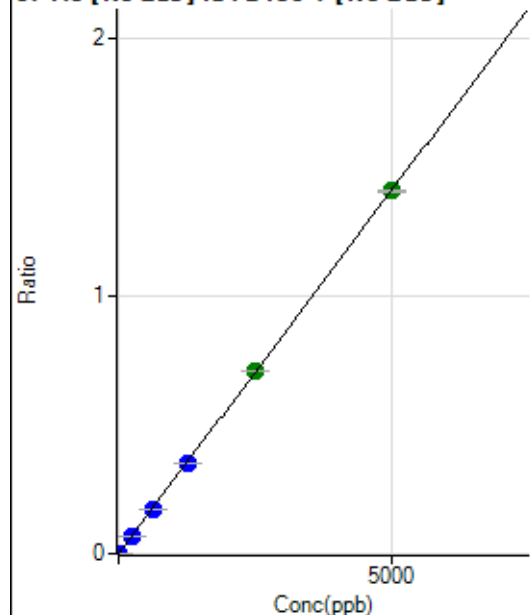
$$DL = 0.02026$$

$$BEC = 0.03155$$

Weight: <None>

Min Conc: 0

97 Mo [No Gas] ISTD:89 Y [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	77.78	0.0000	P	22.5
2	☐	0.500	0.483	1572.38	0.0001	P	15.0
3	☐	5.000	4.652	14552.46	0.0013	P	2.9
4	☐	250.000	245.972	744883.23	0.0694	P	0.4
5	☐	625.000	619.026	1835020.55	0.1747	P	0.5
6	☐	1250.000	1232.815	3604023.61	0.3479	P	0.1
7	☐	2500.000	2520.502	7274437.40	0.7112	A	0.5
8	☐	5000.000	4994.994	14135020.80	1.4094	A	0.4
9	☐			13940.64	0.0015	P	1.0

$$y = 2.8216E-004 * x + 6.9477E-006$$

$$R = 1.0000$$

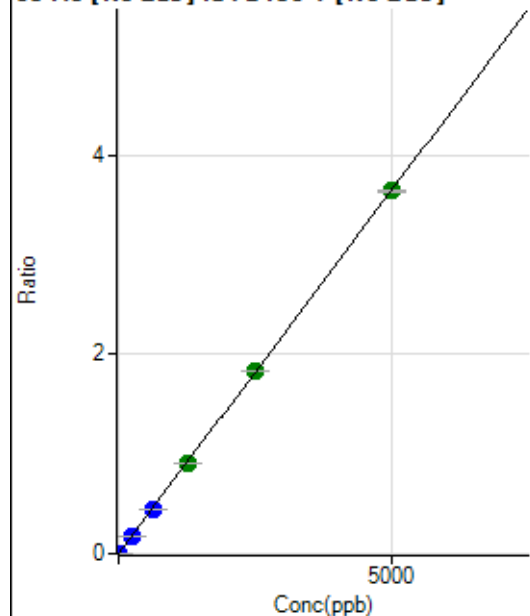
$$DL = 0.01666$$

$$BEC = 0.02462$$

Weight: <None>

Min Conc: 0

98 Mo [No Gas] ISTD:89 Y [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	119.45	0.0000	P	14.4
2	☐	0.500	0.465	3842.36	0.0003	P	4.4
3	☐	5.000	4.747	38297.00	0.0035	P	2.6
4	☐	250.000	247.756	1939082.90	0.1807	P	0.6
5	☐	625.000	617.806	4733421.50	0.4506	P	0.4
6	☐	1250.000	1249.493	9440975.56	0.9112	A	0.5
7	☐	2500.000	2515.005	18760273.34	1.8342	A	0.9
8	☐	5000.000	4993.636	36524071.65	3.6418	A	0.3
9	☐			35787.61	0.0039	P	5.2

$$y = 7.2928E-004 * x + 1.0665E-005$$

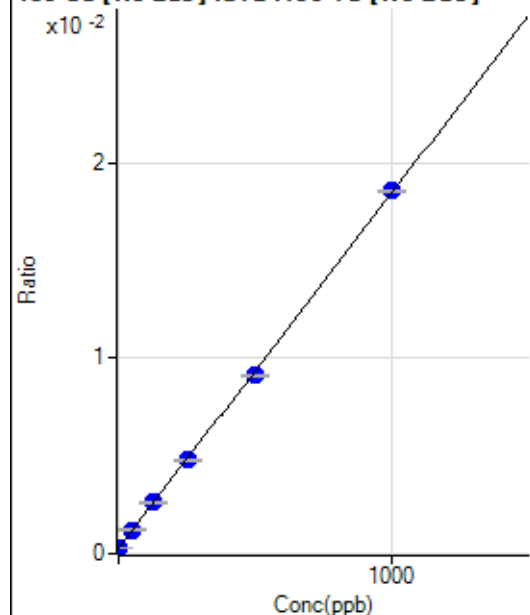
$$R = 1.0000$$

$$DL = 0.006326$$

$$BEC = 0.01462$$

Weight: <None>

Min Conc: 0

106 Cd [No Gas] ISTD :159 Tb [No Gas]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5245.66	0.0003	P	5.3
2	☐	0.100	-0.172	5156.69	0.0003	P	2.5
3	☐	1.000	0.627	5429.04	0.0003	P	5.5
4	☐	50.000	51.732	21942.80	0.0012	P	1.5
5	☐	125.000	128.502	46981.48	0.0026	P	1.6
6	☐	250.000	247.361	85015.72	0.0048	P	0.5
7	☐	500.000	487.288	161878.45	0.0091	P	1.1
8	☐	1000.000	1006.492	324258.31	0.0186	P	0.3
9	☐			4523.16	0.0003	P	5.8

$$y = 1.8168\text{E-}005 * x + 2.8217\text{E-}004$$

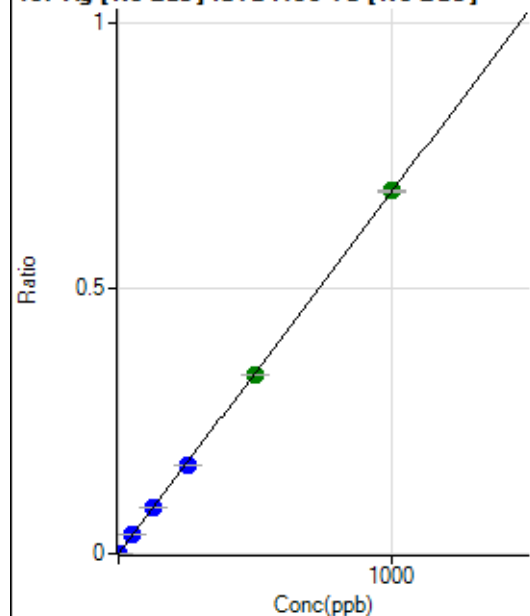
$$R = 0.9999$$

$$DL = 2.475$$

$$BEC = 15.53$$

Weight: <None>

Min Conc: 0

107 Ag [No Gas] ISTD :159 Tb [No Gas]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0000	P	7.3
2	☐	0.100	0.113	1547.37	0.0001	P	2.3
3	☐	1.000	1.004	12786.85	0.0007	P	2.3
4	☐	50.000	51.527	631507.80	0.0352	P	0.0
5	☐	125.000	126.464	1549632.00	0.0863	P	0.2
6	☐	250.000	245.340	2980273.39	0.1674	P	0.3
7	☐	500.000	495.000	5986248.92	0.3378	A	0.5
8	☐	1000.000	1003.405	11958043.32	0.6848	A	0.5
9	☐			2414.20	0.0001	P	13.6

$$y = 6.8245\text{E-}004 * x + 6.2763\text{E-}006$$

$$R = 1.0000$$

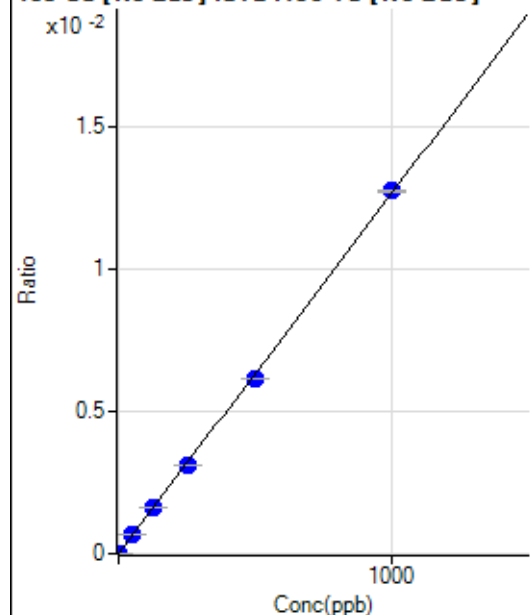
$$DL = 0.002013$$

$$BEC = 0.009197$$

Weight: <None>

Min Conc: 0

108 Cd [No Gas] ISTD:159 Tb [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8.34	0.0000	P	86.3
2	☐	0.100	0.137	40.28	0.0000	P	60.0
3	☐	1.000	1.056	255.56	0.0000	P	25.7
4	☐	50.000	52.554	11967.73	0.0007	P	1.3
5	☐	125.000	127.479	29016.16	0.0016	P	1.4
6	☐	250.000	246.593	55638.09	0.0031	P	1.2
7	☐	500.000	485.563	109058.15	0.0062	P	0.4
8	☐	1000.000	1007.632	223017.07	0.0128	P	0.5
9	☐			86.11	0.0000	P	7.6

$$y = 1.2674\text{E-}005 * x + 4.4763\text{E-}007$$

$$R = 0.9998$$

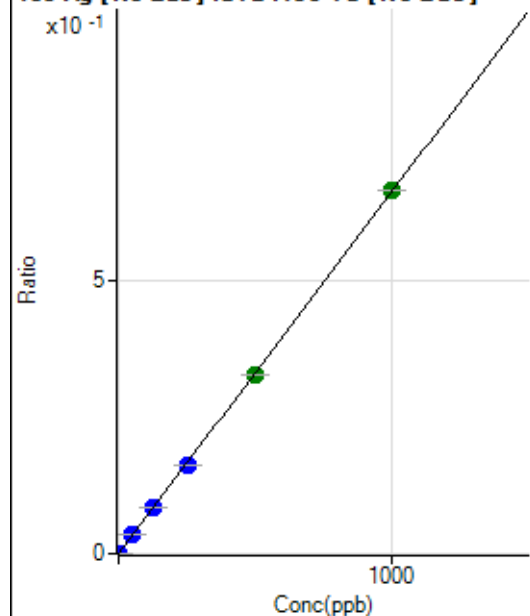
$$DL = 0.0914$$

$$BEC = 0.03532$$

Weight: <None>

Min Conc: 0

109 Ag [No Gas] ISTD:159 Tb [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.22	0.0000	P	10.2
2	☐	0.100	0.109	1375.13	0.0001	P	11.3
3	☐	1.000	1.002	12275.30	0.0007	P	4.6
4	☐	50.000	51.634	612160.96	0.0341	P	1.1
5	☐	125.000	126.263	1496702.28	0.0834	P	0.4
6	☐	250.000	245.961	2890439.54	0.1624	P	0.5
7	☐	500.000	494.466	5784941.01	0.3265	A	0.6
8	☐	1000.000	1003.537	11570302.95	0.6626	A	0.0
9	☐			2339.19	0.0001	P	12.8

$$y = 6.6022\text{E-}004 * x + 2.5402\text{E-}006$$

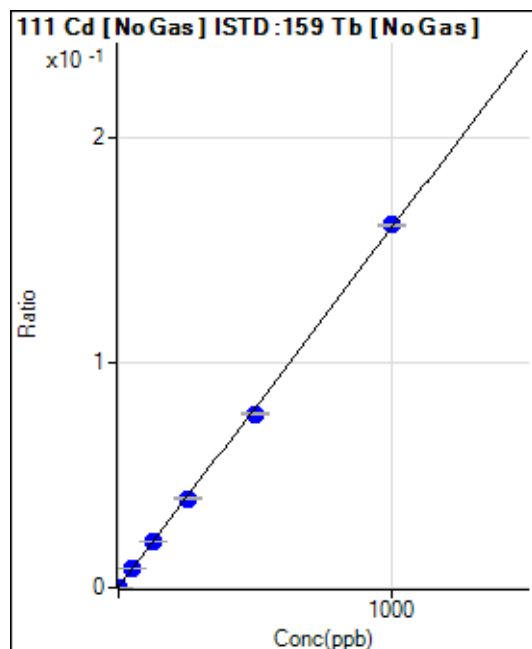
$$R = 1.0000$$

$$DL = 0.00118$$

$$BEC = 0.003847$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3710.57	0.0002	P	4.9
2	☐	0.100					
3	☐	1.000	0.946	6488.45	0.0004	P	5.3
4	☐	50.000	51.593	151713.63	0.0084	P	0.5
5	☐	125.000	126.023	365373.03	0.0204	P	1.3
6	☐	250.000	247.636	708362.06	0.0398	P	0.5
7	☐	500.000	483.137	1372535.49	0.0775	P	0.3
8	☐	1000.000	1008.815	2820560.65	0.1615	P	0.3
9	☐			3721.24	0.0002	P	6.7

$$y = 1.5990\text{E-}004 * x + 1.9960\text{E-}004$$

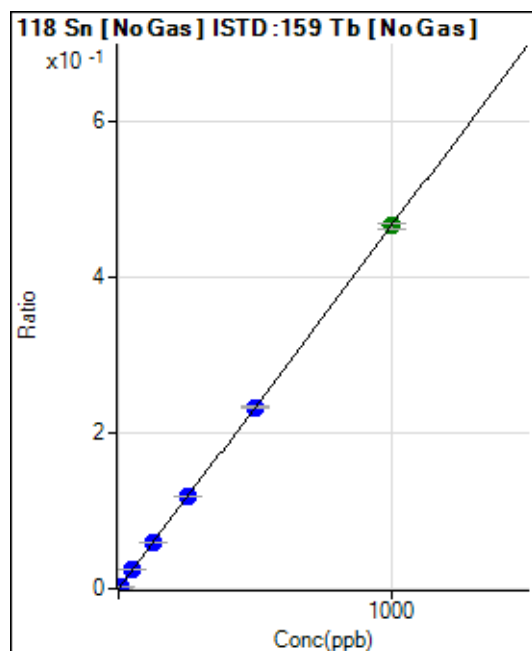
$$R = 0.9998$$

$$DL = 0.1846$$

$$BEC = 1.248$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	652.83	0.0000	P	8.7
2	☐	0.500	0.509	5037.22	0.0003	P	4.3
3	☐	5.000	5.117	44763.92	0.0024	P	2.1
4	☐	50.000	51.532	432029.75	0.0241	P	0.4
5	☐	125.000	127.536	1068195.41	0.0595	P	0.8
6	☐	250.000	252.297	2094384.92	0.1177	P	0.2
7	☐	500.000	498.705	4120770.45	0.2326	P	1.1
8	☐	1000.000	999.679	8139547.06	0.4661	A	1.3
9	☐			4353.63	0.0003	P	2.8

$$y = 4.6624\text{E-}004 * x + 3.5116\text{E-}005$$

$$R = 1.0000$$

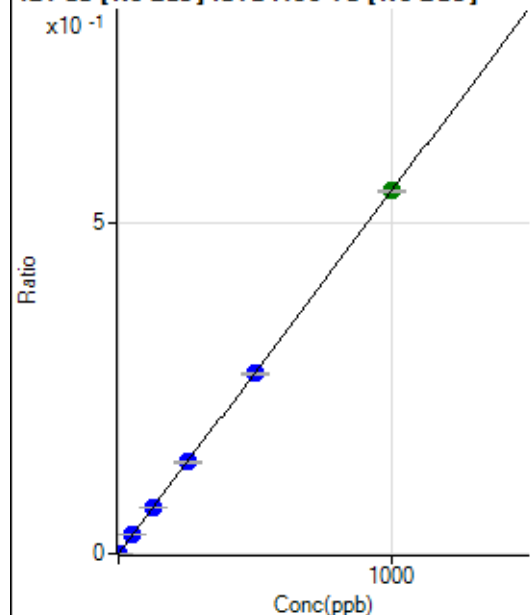
$$DL = 0.01974$$

$$BEC = 0.07532$$

Weight: <None>

Min Conc: 0

121 Sb [No Gas] ISTD :159 Tb [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	105.56	0.0000	P	52.4
2	☐	0.200	0.178	1908.55	0.0001	P	6.1
3	☐	2.000	1.890	19272.28	0.0010	P	1.7
4	☐	50.000	51.194	504337.29	0.0281	P	0.4
5	☐	125.000	126.814	1249056.21	0.0696	P	0.2
6	☐	250.000	252.056	2461125.18	0.1383	P	0.4
7	☐	500.000	498.041	4841260.66	0.2732	P	1.0
8	☐	1000.000	1000.179	9581269.57	0.5487	A	0.6
9	☐			13885.20	0.0009	P	2.3

$$y = 5.4855\text{E-}004 * x + 5.6711\text{E-}006$$

$$R = 1.0000$$

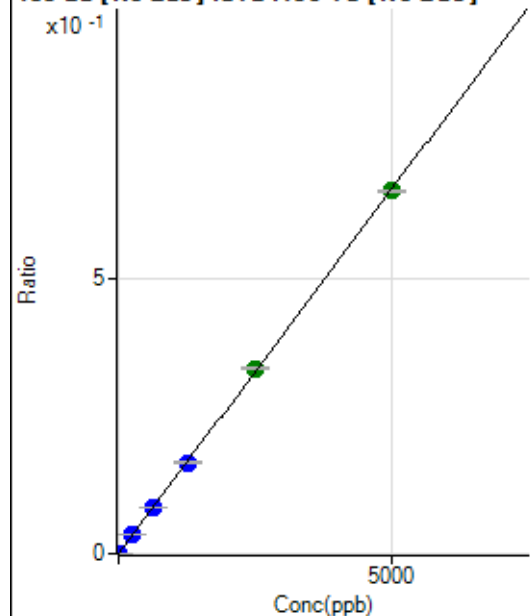
$$DL = 0.01624$$

$$BEC = 0.01034$$

Weight: <None>

Min Conc: 0

135 Ba [No Gas] ISTD :159 Tb [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0000	P	44.2
2	☐	1.000	1.026	2567.02	0.0001	P	2.4
3	☐	10.000	9.914	24391.56	0.0013	P	1.9
4	☐	250.000	255.881	610134.53	0.0340	P	0.6
5	☐	625.000	628.467	1498333.56	0.0835	P	1.0
6	☐	1250.000	1252.958	2961376.19	0.1664	P	0.5
7	☐	2500.000	2537.176	5969945.23	0.3369	A	0.9
8	☐	5000.000	4979.945	11547925.08	0.6613	A	0.5
9	☐			2397.54	0.0001	P	14.9

$$y = 1.3279\text{E-}004 * x + 2.6917\text{E-}006$$

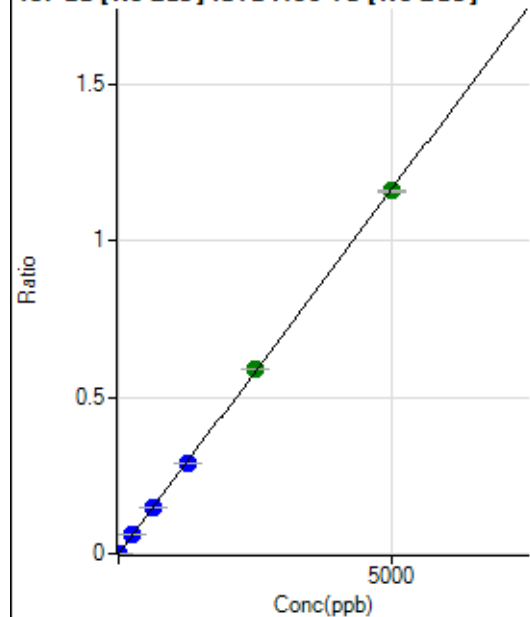
$$R = 1.0000$$

$$DL = 0.0269$$

$$BEC = 0.02027$$

Weight: <None>

Min Conc: 0

137 Ba [No Gas] ISTD :159 Tb [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	58.34	0.0000	P	14.4
2	☐	1.000	0.992	4317.54	0.0002	P	1.7
3	☐	10.000	9.973	42906.00	0.0023	P	0.7
4	☐	250.000	256.756	1071266.30	0.0597	P	0.1
5	☐	625.000	632.515	2638682.37	0.1470	P	0.7
6	☐	1250.000	1248.178	5162290.18	0.2900	P	0.3
7	☐	2500.000	2533.713	10432441.90	0.5887	A	0.4
8	☐	5000.000	4982.322	20216580.31	1.1577	A	0.2
9	☐			4164.70	0.0003	P	6.1

$$y = 2.3236E-004 * x + 3.1384E-006$$

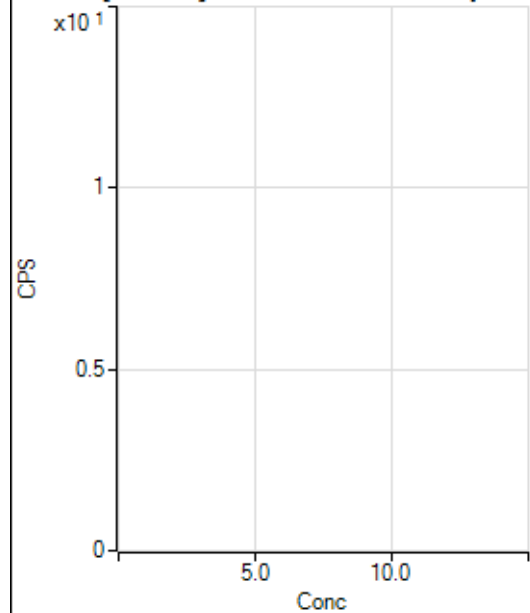
$$R = 1.0000$$

$$DL = 0.005843$$

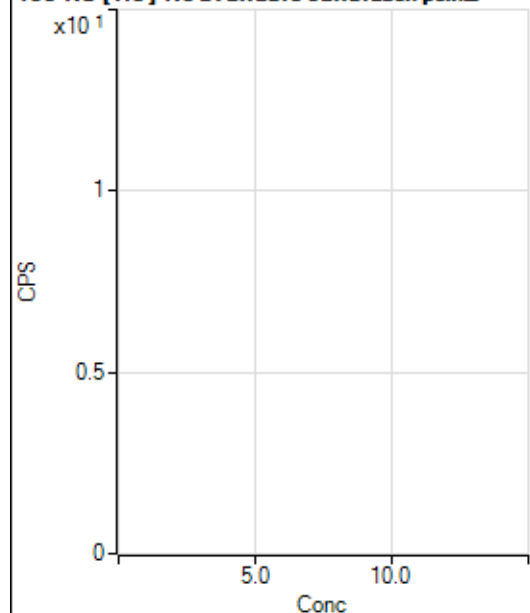
$$BEC = 0.01351$$

Weight: <None>

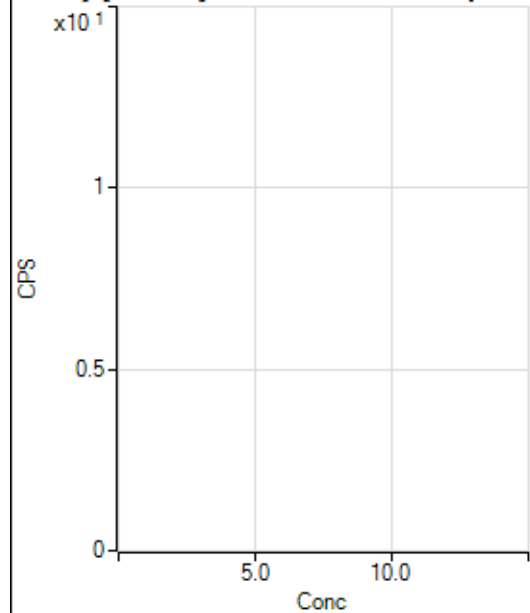
Min Conc: 0

150 Nd [No Gas] No available calibration points

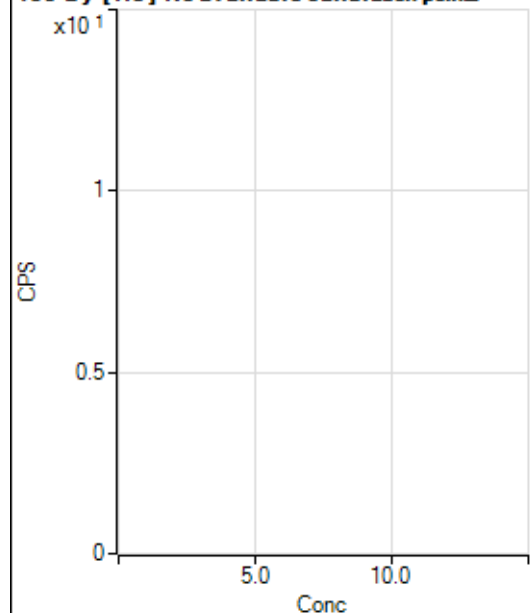
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			11.11		P	91.7
2	☐			2.22		P	173.2
3	☐			13.33		P	100.0
4	☐			55.56		P	34.6
5	☐			162.23		P	6.3
6	☐			213.34		P	8.3
7	☐			551.14		P	6.7
8	☐			920.06		P	8.2
9	☐			137.78		P	26.7

150 Nd [He] No available calibration points

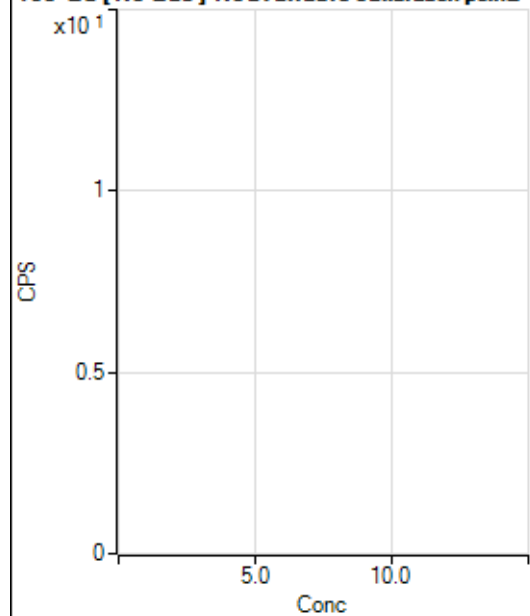
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4.44		P	114.6
2	☐			11.11		P	75.5
3	☐			12.22		P	68.7
4	☐			12.22		P	31.5
5	☐			22.22		P	8.7
6	☐			36.67		P	24.1
7	☐			53.33		P	34.8
8	☐			64.44		P	25.5
9	☐			46.67		P	18.9

156 Dy [No Gas] No available calibration points

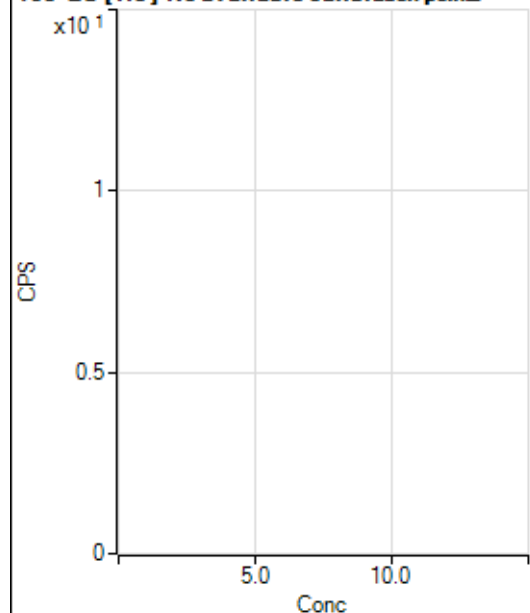
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			30.56		P	41.7
2	☐			30.56		P	103.3
3	☐			27.78		P	17.3
4	☐			38.89		P	12.4
5	☐			44.44		P	21.7
6	☐			52.78		P	50.8
7	☐			113.89		P	18.4
8	☐			200.01		P	19.1
9	☐			88.89		P	28.6

156 Dy [He] No available calibration points

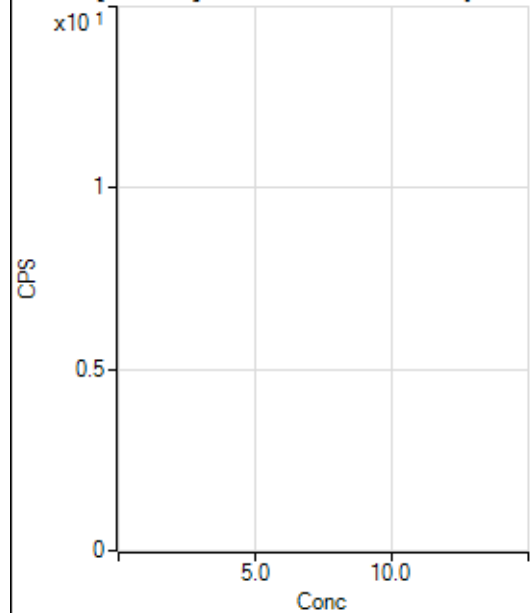
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			25.55		P	41.9
2	☐			24.44		P	67.3
3	☐			23.34		P	89.2
4	☐			33.33		P	26.5
5	☐			48.89		P	3.9
6	☐			62.22		P	15.5
7	☐			116.67		P	8.6
8	☐			147.78		P	12.4
9	☐			47.78		P	10.7

160 Gd [No Gas] Noavailable calibration poin_

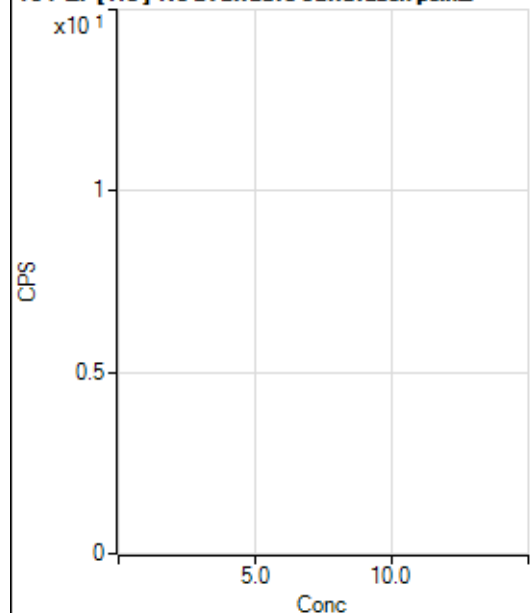
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			130.56		P	38.5
2	☐			75.00		P	58.8
3	☐			116.67		P	32.7
4	☐			80.56		P	11.9
5	☐			100.00		P	16.7
6	☐			105.56		P	43.5
7	☐			108.34		P	55.5
8	☐			122.23		P	10.4
9	☐			130.56		P	26.6

160 Gd [He] No available calibration points

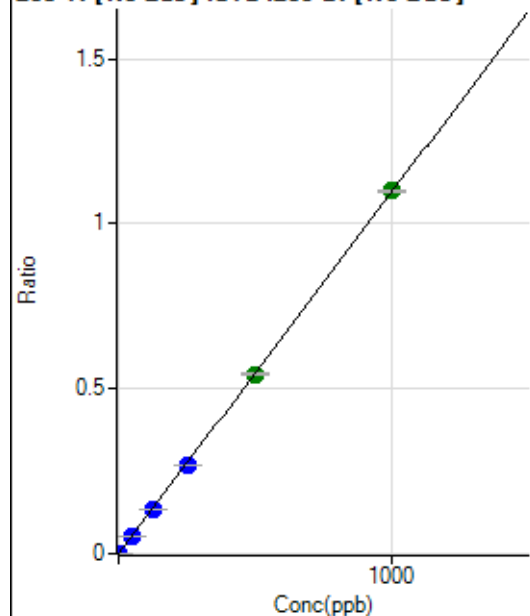
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			173.34		P	17.3
2	☐			183.34		P	10.1
3	☐			164.45		P	10.0
4	☐			154.45		P	11.1
5	☐			138.89		P	18.3
6	☐			183.34		P	9.1
7	☐			142.22		P	11.1
8	☐			182.23		P	5.6
9	☐			171.12		P	22.5

164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			72.22		P	6.7
2	☐			108.34		P	27.7
3	☐			86.11		P	31.1
4	☐			83.34		P	17.3
5	☐			88.89		P	23.6
6	☐			102.78		P	24.8
7	☐			116.67		P	51.5
8	☐			119.45		P	22.4
9	☐			125.01		P	6.7

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			76.67		P	35.6
2	☐			74.44		P	33.6
3	☐			55.56		P	27.1
4	☐			75.56		P	5.1
5	☐			73.33		P	34.3
6	☐			61.11		P	16.7
7	☐			93.34		P	22.3
8	☐			70.00		P	12.6
9	☐			81.11		P	33.2

203 Tl [No Gas] ISTD :209 Bi [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	775.06	0.0001	P	10.2
2	☐	0.100	0.079	1908.55	0.0001	P	9.3
3	☐	1.000	0.911	13757.73	0.0011	P	1.4
4	☐	50.000	48.163	669828.65	0.0528	P	0.7
5	☐	125.000	120.474	1658933.38	0.1320	P	0.8
6	☐	250.000	243.633	3276278.03	0.2669	P	0.6
7	☐	500.000	496.480	6548026.32	0.5439	A	0.6
8	☐	1000.000	1004.009	12789204.36	1.0997	A	0.3
9	☐			4812.22	0.0005	P	10.1

$$y = 0.0011 * x + 5.9132E-005$$

$$R = 1.0000$$

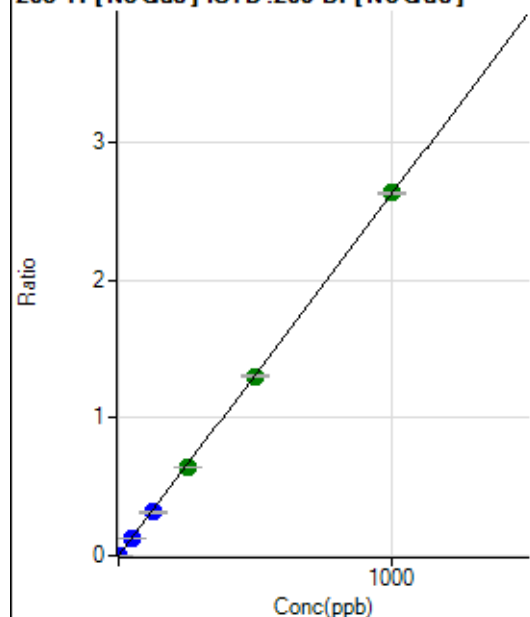
$$DL = 0.01649$$

$$BEC = 0.05399$$

Weight: <None>

Min Conc: 0

205 Tl [No Gas] ISTD :209 Bi [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	961.19	0.0001	P	10.1
2	☐	0.100	0.093	4148.06	0.0003	P	4.9
3	☐	1.000	0.934	32863.78	0.0025	P	0.3
4	☐	50.000	48.289	1607631.07	0.1268	P	0.3
5	☐	125.000	120.005	3956930.03	0.3149	P	1.1
6	☐	250.000	245.375	7902186.90	0.6438	A	0.0
7	☐	500.000	496.591	15685471.36	1.3028	A	1.0
8	☐	1000.000	1003.571	30616955.55	2.6328	A	0.5
9	☐			10576.95	0.0011	P	9.2

$$y = 0.0026 * x + 7.3339E-005$$

$$R = 1.0000$$

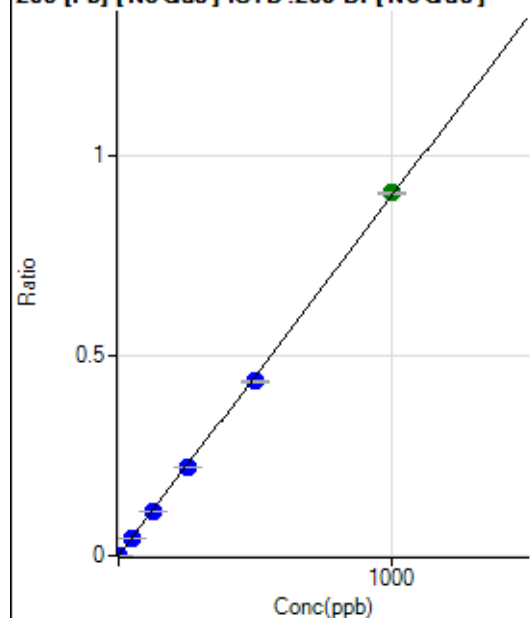
$$DL = 0.008432$$

$$BEC = 0.02796$$

Weight: <None>

Min Conc: 0

206 [Pb] [No Gas] ISTD :209 Bi [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1209.36	0.0001	P	9.1
2	☐	0.100	0.093	2289.15	0.0002	P	7.3
3	☐	1.000	0.911	11859.31	0.0009	P	0.3
4	☐	50.000	48.618	555184.74	0.0438	P	0.6
5	☐	125.000	121.025	1367532.57	0.1088	P	0.9
6	☐	250.000	243.965	2691590.48	0.2193	P	0.4
7	☐	500.000	485.575	5253647.92	0.4363	P	0.6
8	☐	1000.000	1009.287	10546188.43	0.9069	A	0.3
9	☐			12756.42	0.0013	P	5.1

$$y = 8.9843E-004 * x + 9.2276E-005$$

$$R = 0.9998$$

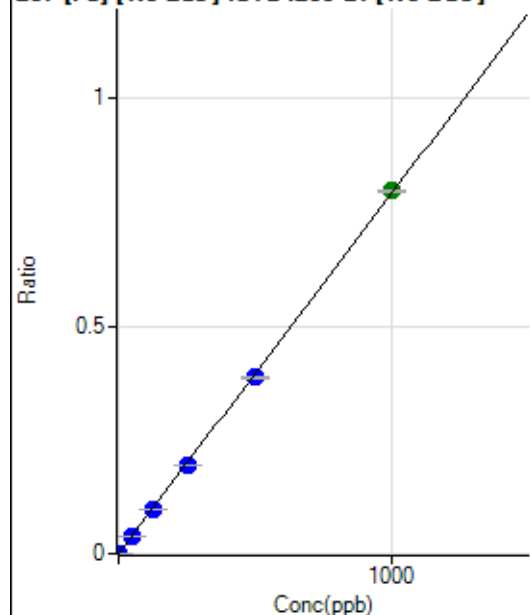
$$DL = 0.02818$$

$$BEC = 0.1027$$

Weight: <None>

Min Conc: 0

207 [Pb] [No Gas] ISTD :209 Bi [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1196.38	0.0001	P	9.0
2	☐	0.100	0.081	2031.70	0.0002	P	2.6
3	☐	1.000	0.895	10398.78	0.0008	P	2.6
4	☐	50.000	48.467	486927.20	0.0384	P	0.8
5	☐	125.000	121.208	1204789.49	0.0959	P	0.5
6	☐	250.000	244.830	2375926.47	0.1936	P	0.4
7	☐	500.000	489.076	4654293.04	0.3866	P	0.8
8	☐	1000.000	1007.305	9258250.09	0.7961	A	0.5
9	☐			10943.69	0.0011	P	3.1

$$y = 7.9023\text{E-}004 * x + 9.1272\text{E-}005$$

$$R = 0.9999$$

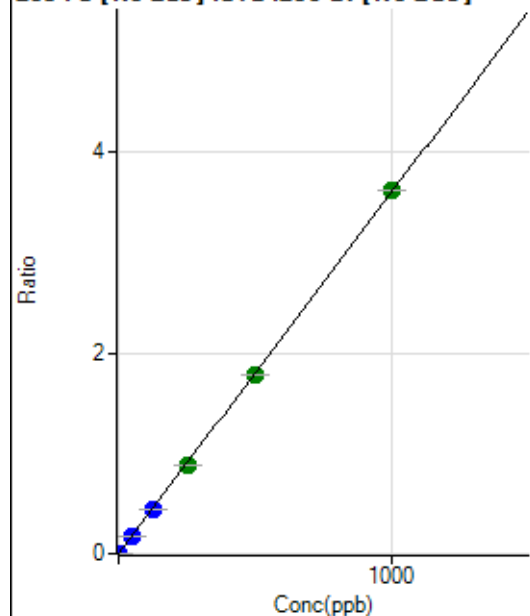
$$DL = 0.03126$$

$$BEC = 0.1155$$

Weight: <None>

Min Conc: 0

208 Pb [No Gas] ISTD :209 Bi [No Gas]



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4163.32	0.0003	P	5.5
2	☐	0.100	0.093	8530.91	0.0007	P	3.5
3	☐	1.000	0.919	47211.66	0.0036	P	0.4
4	☐	50.000	48.683	2226715.77	0.1756	P	0.4
5	☐	125.000	121.596	5504473.75	0.4380	P	0.6
6	☐	250.000	247.023	10918853.20	0.8895	A	0.3
7	☐	500.000	494.749	21446963.21	1.7813	A	0.3
8	☐	1000.000	1003.861	42028237.86	3.6140	A	0.1
9	☐			49746.42	0.0050	P	3.7

$$y = 0.0036 * x + 3.1765\text{E-}004$$

$$R = 1.0000$$

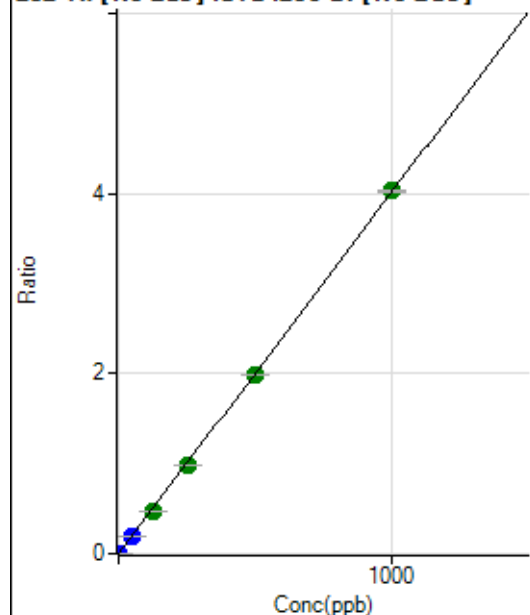
$$DL = 0.0145$$

$$BEC = 0.08824$$

Weight: <None>

Min Conc: 0

232 Th [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	2765.19	0.0002	P	4.8
2	☐	0.100	0.077	6794.53	0.0005	P	3.9
3	☐	1.000	0.817	45393.94	0.0035	P	2.0
4	☐	50.000	47.103	2398003.56	0.1891	P	0.5
5	☐	125.000	119.291	6013131.90	0.4785	A	0.2
6	☐	250.000	243.363	11979561.38	0.9759	A	0.8
7	☐	500.000	495.104	23902381.32	1.9853	A	0.8
8	☐	1000.000	1004.966	46858580.21	4.0295	A	0.8
9	☐			13225.52	0.0013	P	8.2

$$y = 0.0040 * x + 2.1097E-004$$

$$R = 0.9999$$

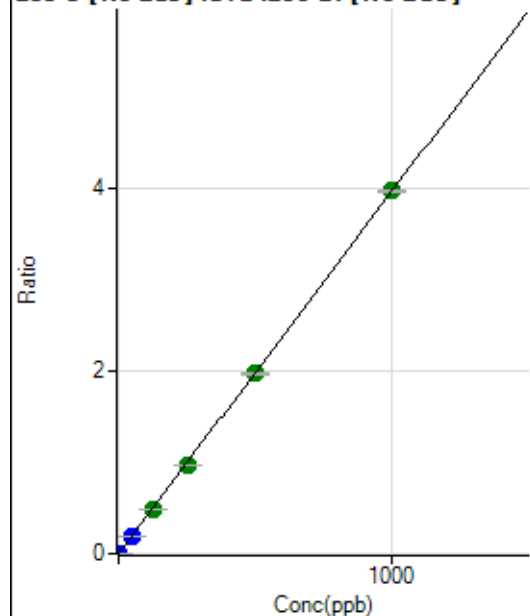
$$DL = 0.007573$$

$$BEC = 0.05262$$

Weight: <None>

Min Conc: 0

238 U [No Gas] ISTD :209 Bi [No Gas]



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	4081.38	0.0003	P	3.2
2	☐	0.100	0.078	8125.14	0.0006	P	5.0
3	☐	1.000	0.877	49358.91	0.0038	P	1.8
4	☐	50.000	48.087	2422600.77	0.1910	P	0.2
5	☐	125.000	121.183	6043148.44	0.4809	A	0.5
6	☐	250.000	244.481	11904426.83	0.9698	A	0.6
7	☐	500.000	498.117	23786748.62	1.9757	A	1.0
8	☐	1000.000	1002.894	46254067.35	3.9774	A	0.8
9	☐			10944.01	0.0011	P	12.1

$$y = 0.0040 * x + 3.1139E-004$$

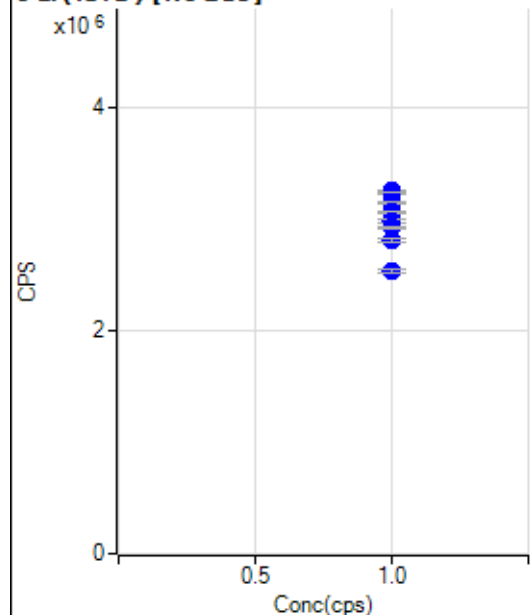
$$R = 1.0000$$

$$DL = 0.007459$$

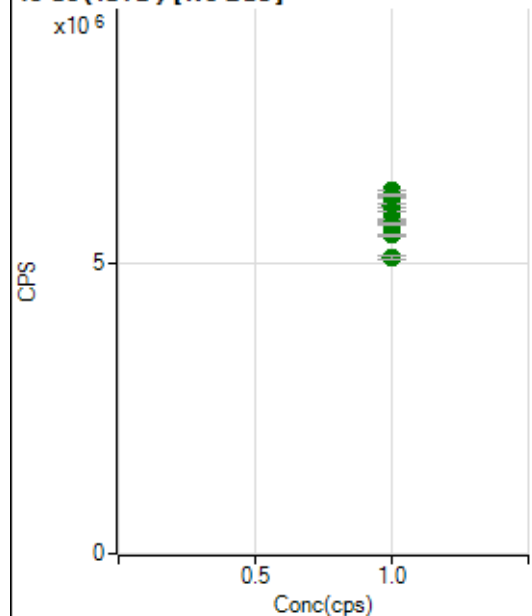
$$BEC = 0.07852$$

Weight: <None>

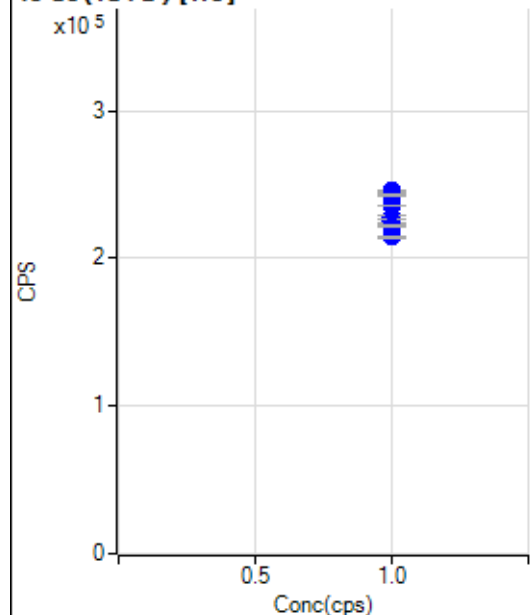
Min Conc: 0

6 Li (ISTD) [No Gas]

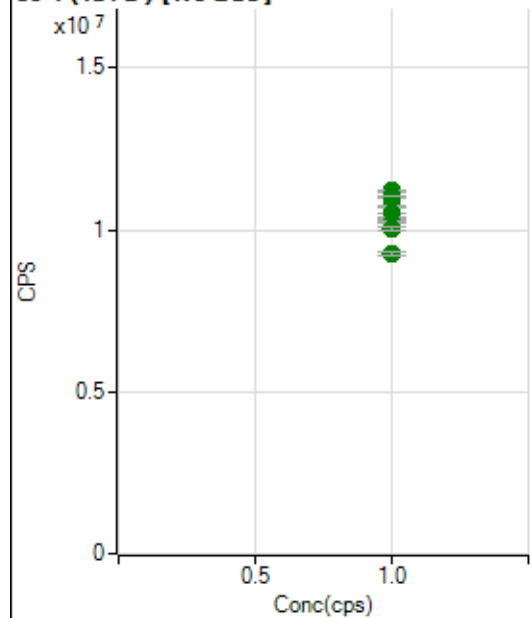
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3251865.06		P	0.7
2	☐	1.000		3233447.35		P	0.9
3	☐	1.000		3237879.36		P	0.3
4	☐	1.000		3147532.35		P	0.4
5	☐	1.000		3060162.14		P	0.4
6	☐	1.000		2982409.43		P	0.8
7	☐	1.000		2927414.40		P	0.6
8	☐	1.000		2804874.99		P	1.5
9	☐	1.000		2528523.57		P	1.2

45 Sc (ISTD) [No Gas]

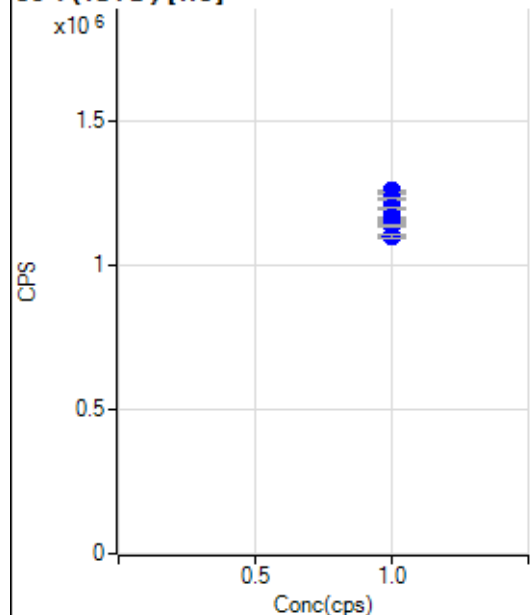
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6263677.36		A	0.1
2	☐	1.000		6151485.12		A	0.5
3	☐	1.000		6190496.10		A	0.4
4	☐	1.000		6012613.46		A	0.9
5	☐	1.000		5907018.10		A	0.1
6	☐	1.000		5765215.75		A	0.5
7	☐	1.000		5685268.96		A	0.5
8	☐	1.000		5502902.51		A	0.7
9	☐	1.000		5114035.75		A	1.2

45 Sc (ISTD) [He]

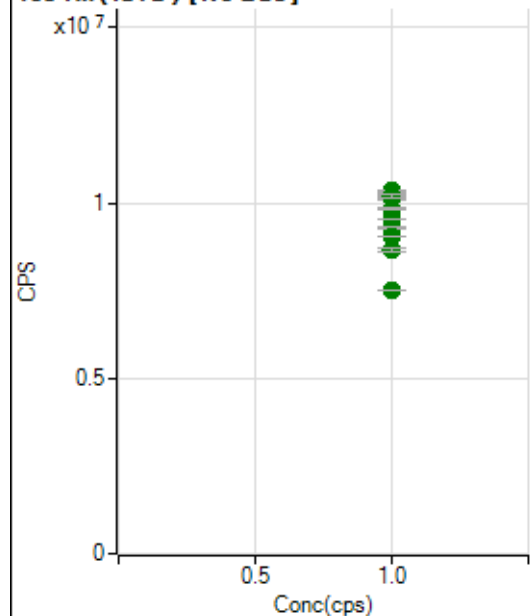
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		245708.67		P	0.5
2	☐	1.000		243529.42		P	0.3
3	☐	1.000		242605.37		P	0.2
4	☐	1.000		235902.04		P	0.4
5	☐	1.000		228143.24		P	0.9
6	☐	1.000		225592.11		P	1.0
7	☐	1.000		222002.92		P	0.5
8	☐	1.000		214686.85		P	0.2
9	☐	1.000		214609.21		P	0.5

89 Y (ISTD) [No Gas]

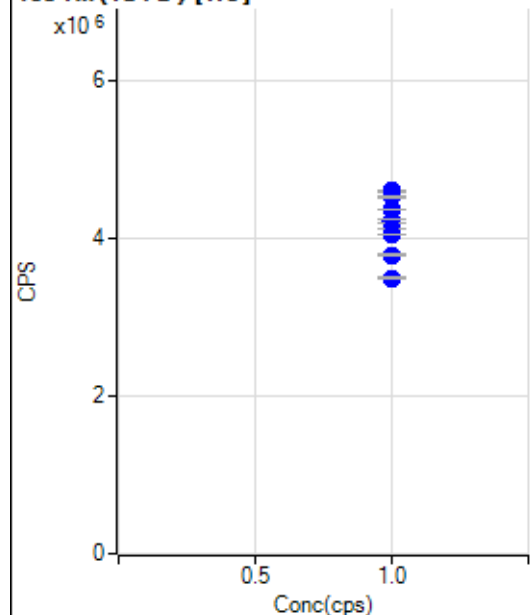
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		11199380.67		A	0.6
2	☐	1.000		10982743.45		A	0.5
3	☐	1.000		11028874.56		A	0.3
4	☐	1.000		10731330.26		A	0.4
5	☐	1.000		10505596.44		A	0.4
6	☐	1.000		10360466.30		A	0.4
7	☐	1.000		10228609.50		A	0.6
8	☐	1.000		10029233.81		A	1.1
9	☐	1.000		9268101.11		A	0.9

89 Y (ISTD) [He]

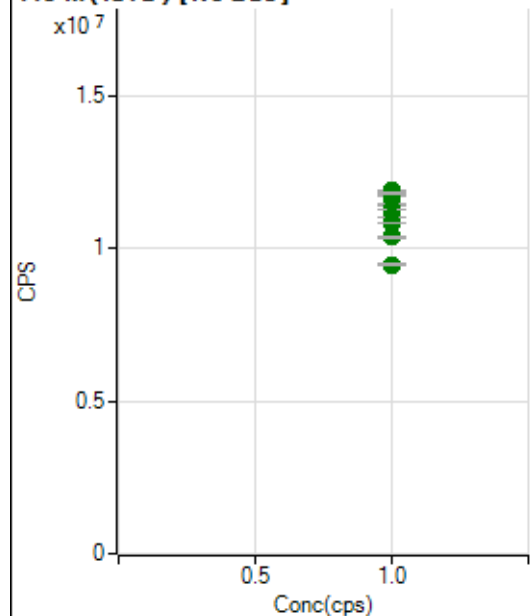
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1260511.98		P	0.6
2	☐	1.000		1254055.80		P	0.4
3	☐	1.000		1232827.71		P	0.5
4	☐	1.000		1199645.83		P	0.2
5	☐	1.000		1167006.74		P	0.5
6	☐	1.000		1153526.16		P	0.9
7	☐	1.000		1140601.39		P	0.4
8	☐	1.000		1103508.44		P	0.6
9	☐	1.000		1103297.60		P	0.8

103 Rh (ISTD) [No Gas]

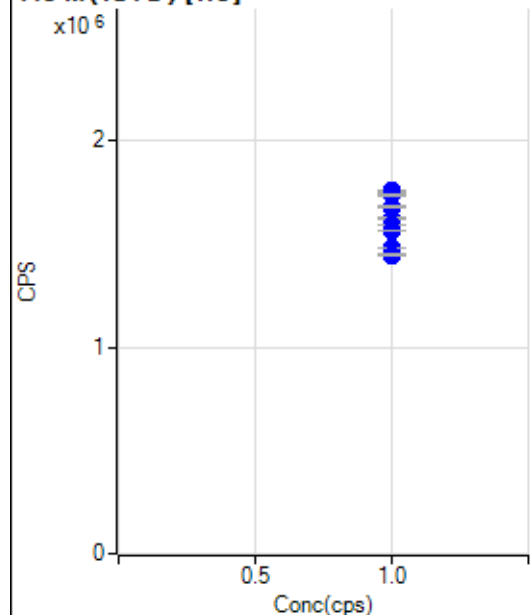
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		10338732.61		A	0.5
2	☐	1.000		10133718.11		A	0.8
3	☐	1.000		10185793.11		A	0.9
4	☐	1.000		9830679.65		A	0.4
5	☐	1.000		9545977.47		A	0.3
6	☐	1.000		9288075.81		A	0.4
7	☐	1.000		9034949.59		A	0.1
8	☐	1.000		8670523.63		A	1.0
9	☐	1.000		7503148.43		A	0.5

103 Rh (ISTD) [He]

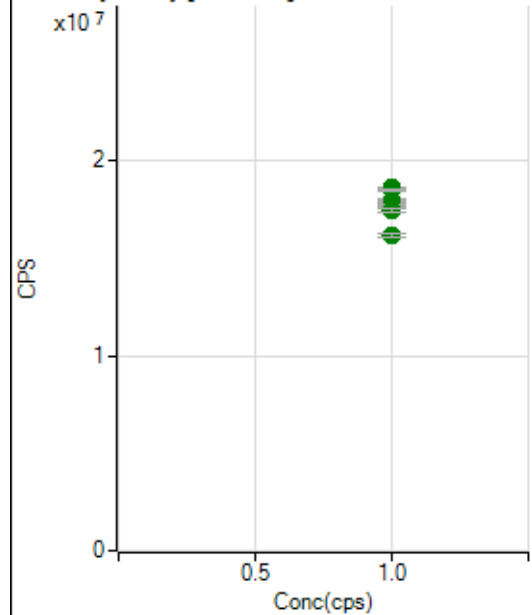
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4602765.31		P	0.3
2	☐	1.000		4588605.52		P	0.2
3	☐	1.000		4531330.59		P	0.3
4	☐	1.000		4368027.40		P	0.1
5	☐	1.000		4224832.92		P	0.9
6	☐	1.000		4121682.13		P	0.3
7	☐	1.000		4050028.97		P	0.2
8	☐	1.000		3792154.70		P	0.2
9	☐	1.000		3497184.78		P	0.2

115 In (ISTD) [No Gas]

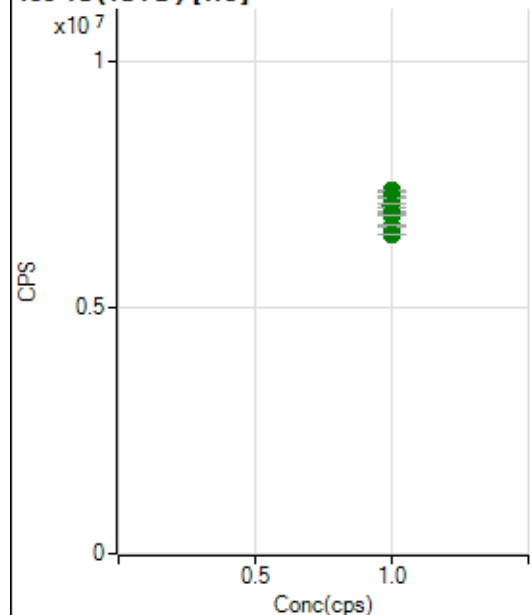
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		11894554.85		A	0.4
2	☐	1.000		11745819.53		A	0.6
3	☐	1.000		11810287.43		A	0.6
4	☐	1.000		11430357.35		A	0.4
5	☐	1.000		11265978.82		A	0.1
6	☐	1.000		11029572.97		A	0.1
7	☐	1.000		10839573.23		A	0.4
8	☐	1.000		10391693.02		A	0.8
9	☐	1.000		9482871.21		A	0.4

115 In (ISTD) [He]

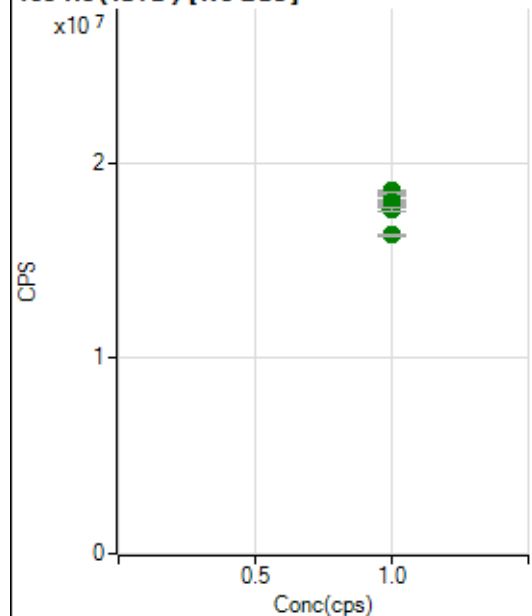
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1756727.51		P	0.2
2	☐	1.000		1746463.80		P	0.1
3	☐	1.000		1737093.23		P	0.8
4	☐	1.000		1679011.12		P	0.5
5	☐	1.000		1623897.06		P	0.8
6	☐	1.000		1592372.20		P	0.5
7	☐	1.000		1565595.95		P	0.3
8	☐	1.000		1481685.89		P	0.4
9	☐	1.000		1447205.51		P	0.4

159 Tb (ISTD) [No Gas]

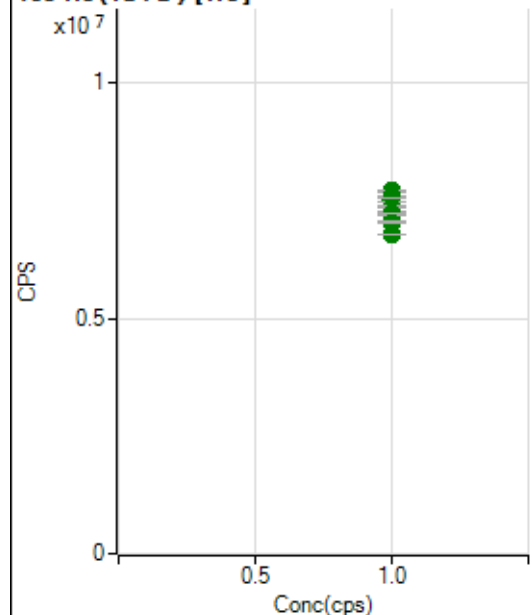
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		18591164.31		A	0.4
2	☐	1.000		18481894.58		A	0.8
3	☐	1.000		18490503.06		A	0.4
4	☐	1.000		17955586.12		A	0.4
5	☐	1.000		17953930.98		A	0.3
6	☐	1.000		17799353.62		A	0.5
7	☐	1.000		17720608.34		A	0.6
8	☐	1.000		17463093.77		A	0.9
9	☐	1.000		16163942.40		A	0.8

159 Tb (ISTD) [He]

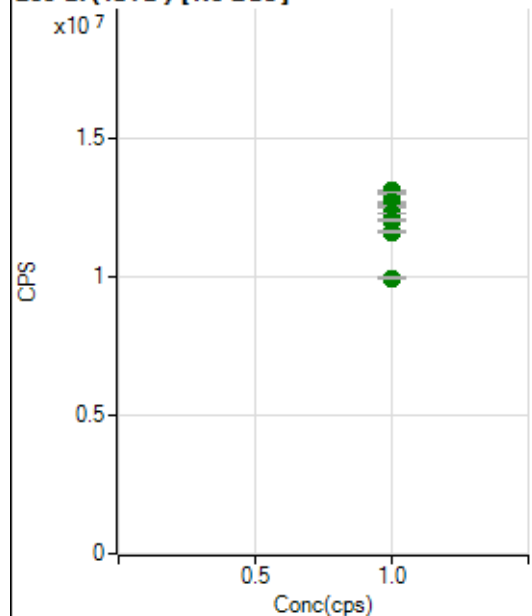
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7358833.57		A	0.3
2	☐	1.000		7259071.91		A	0.2
3	☐	1.000		7215371.63		A	0.2
4	☐	1.000		7063338.50		A	0.7
5	☐	1.000		6920965.66		A	0.4
6	☐	1.000		6917599.48		A	0.4
7	☐	1.000		6865429.69		A	0.1
8	☐	1.000		6637806.29		A	0.6
9	☐	1.000		6476270.39		A	0.4

165 Ho (ISTD) [No Gas]

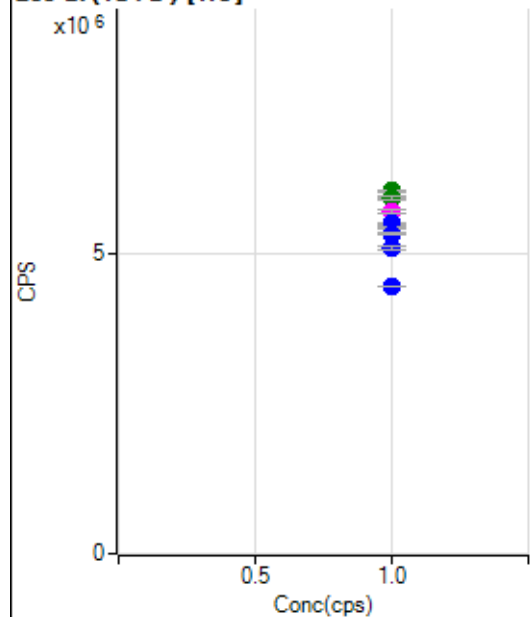
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		18548448.16		A	0.2
2	☐	1.000		18367110.13		A	0.7
3	☐	1.000		18459110.14		A	0.3
4	☐	1.000		18028324.71		A	0.7
5	☐	1.000		17985952.14		A	0.3
6	☐	1.000		17846957.17		A	0.1
7	☐	1.000		17722522.44		A	0.2
8	☐	1.000		17627770.88		A	1.0
9	☐	1.000		16302347.94		A	0.5

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7702613.64		A	0.5
2	☐	1.000		7593517.25		A	0.4
3	☐	1.000		7527406.76		A	1.0
4	☐	1.000		7368546.97		A	0.5
5	☐	1.000		7236252.32		A	0.5
6	☐	1.000		7225762.32		A	0.4
7	☐	1.000		7202419.61		A	0.5
8	☐	1.000		7034297.05		A	0.7
9	☐	1.000		6776818.09		A	0.4

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		13106783.55		A	0.1
2	☐	1.000		13053850.64		A	0.6
3	☐	1.000		13020026.89		A	0.3
4	☐	1.000		12683379.95		A	0.5
5	☐	1.000		12566681.90		A	0.6
6	☐	1.000		12274774.54		A	0.2
7	☐	1.000		12040297.05		A	0.6
8	☐	1.000		11629374.69		A	0.8
9	☐	1.000		9947214.44		A	0.8

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6034111.65		A	0.4
2	☐	1.000		5913904.29		A	0.5
3	☐	1.000		5910227.97		A	0.8
4	☐	1.000		5686931.58		M	1.3
5	☐	1.000		5491371.37		P	0.4
6	☐	1.000		5425109.92		P	0.8
7	☐	1.000		5315116.45		P	0.7
8	☐	1.000		5079099.37		P	1.0
9	☐	1.000		4444182.43		P	0.6

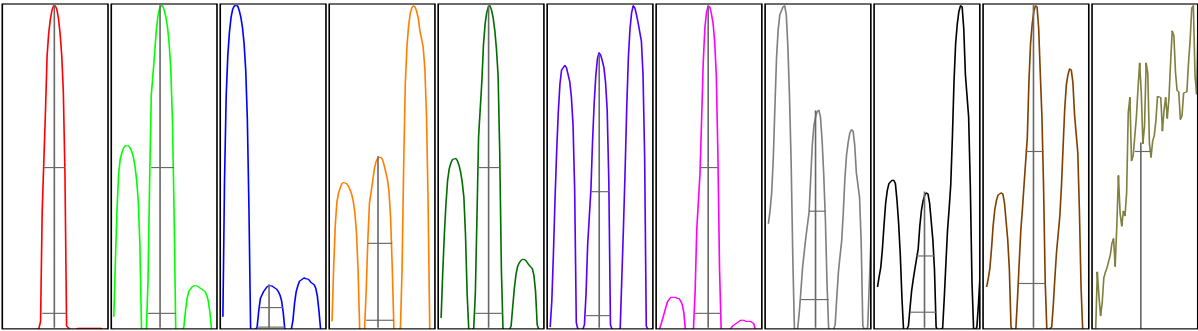
US EPA Tune Check Sample Report

Batch Folder D:\ICP-MS Data\P7100819-MS.b
Report Comment
Instrument Name G8403A JP14410463

[No Gas]				
Mass	Count	RSD%	RSD%	RSD%
	(Mean)	(Actual)	(Required)	(Flag)
9	8823	0.94	5.00	
24	105532	0.88	5.00	
25	14250	0.79	5.00	
26	16858	0.89	5.00	
59	76800	1.05	5.00	
113	12692	0.67	5.00	
115	148127	0.45	5.00	
206	47373	0.20	5.00	
207	45041	0.40	5.00	
208	102839	0.48	5.00	
220	126	2.64		

Mass	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5
	Count	Count	Count	Count	Count
9	8962	8826	8766	8752	8811
24	107080	105598	105270	104682	105029
25	14400	14283	14103	14182	14282
26	17117	16851	16760	16798	16762
59	78203	76601	76323	76235	76638
113	12810	12721	12575	12665	12689
115	148966	148364	147154	148293	147858
206	47373	47239	47340	47413	47498
207	45077	44976	44941	44878	45333
208	102923	103269	102106	102616	103280
220	125	125	131	122	128

Integration Time [sec] = 0.1



Mass	Peak	Axis	Axis	Axis	Width-X%	Width-X%	Width-
	Height	(Actual)	(Required)	(Flag)	(Actual)	(Required)	X% (Flag)
9	14805	9.00	8.9 - 9.1		0.742	0.900	
24	165623	23.90	23.9 - 24.1		0.827	0.900	
25	22397	24.90	24.9 - 25.1		0.795	0.900	
26	26164	25.90	25.9 - 26.1		0.832	0.900	
59	129155	58.95	58.9 - 59.1		0.814	0.900	
113	23597	113.00	112.9 - 113.1		0.732	0.900	
115	277219	115.00	114.9 - 115.1		0.766	0.900	
206	89785	205.95	205.9 - 206.1		0.788	0.900	
207	82342	206.95	206.9 - 207.1		0.751	0.900	
208	195259	207.95	207.9 - 208.1		0.780	0.900	
220	124	219.90	-				

X% = 5 Integration Time [sec] = 0.1 Acquisition Time [sec] = 268 Y Axis = Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.80	L/min	S/C Temp		2 °C
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch		Dilution Gas
Smpl Depth	9.0	mm	Nebulizer Pump	0.10	rpm	Makeup/Dilution Gas		0.37 L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	6.2	V	Deflect	12.0	V
Extract 2	-120.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-60	V	Cell Exit	-50	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP Bias	-8.0	V	Energy Discrimination		5.0 V
He Flow	0.0	mL/min	OctP RF	160	V			

[He]

Mass	Count	RSD%	RSD%
	(Mean)	(Actual)	(Required)
59	19304	0.94	
89	24479	0.66	
205	35604	0.72	

Mass	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5
	Count	Count	Count	Count	Count
59	19286	19380	19535	19282	19036
89	24469	24548	24702	24414	24264
205	35637	35641	35899	35652	35192

Integration Time [sec] = 0.1

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.80	L/min	S/C Temp		2 °C
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch		Dilution Gas
Smpl Depth	9.0	mm	Nebulizer Pump	0.10	rpm	Makeup/Dilution Gas		0.37 L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	6.1	V	Deflect	1.2	V
Extract 2	-125.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP Bias	-18.0	V	Energy Discrimination		5.0 V
He Flow	4.1	mL/min	OctP RF	200	V			