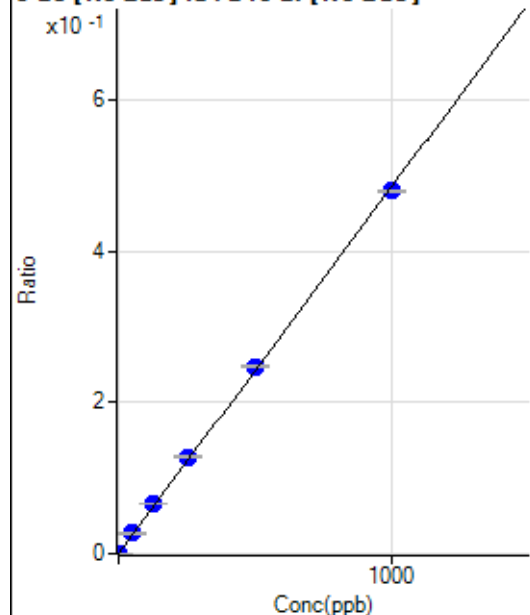


Batch Folder: D:\P8032818MS.b\
Analysis File: P8032818MS.batch.bin
DA Date-Time: 2018-03-29 10:21:43
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2018-03-28 13:27:18
2			
3	005CALS.d	S02	2018-03-28 13:34:51
4	006CALS.d	S03	2018-03-28 13:38:33
5	007CALS.d	S04	2018-03-28 13:42:19
6	008CALS.d	S05	2018-03-28 13:45:57
7	009CALS.d	S06	2018-03-28 13:49:27
8	010CALS.d	S07	2018-03-28 13:52:54
9	011CALS.d	S08	2018-03-28 13:56:19

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	94.45	0.0001	P	12.2
2	☐	0.100					
3	☐	1.000	1.021	790.78	0.0006	P	4.2
4	☐	50.000	56.253	37644.20	0.0273	P	5.2
5	☐	125.000	135.422	91880.44	0.0656	P	1.7
6	☐	250.000	263.175	177286.70	0.1275	P	1.9
7	☐	500.000	510.833	335004.36	0.2474	P	1.3
8	☐	1000.000	989.674	602270.16	0.4792	P	0.4
9	☐			531.51	0.0004	P	14.8

$$y = 4.8417E-004 * x + 6.6290E-005$$

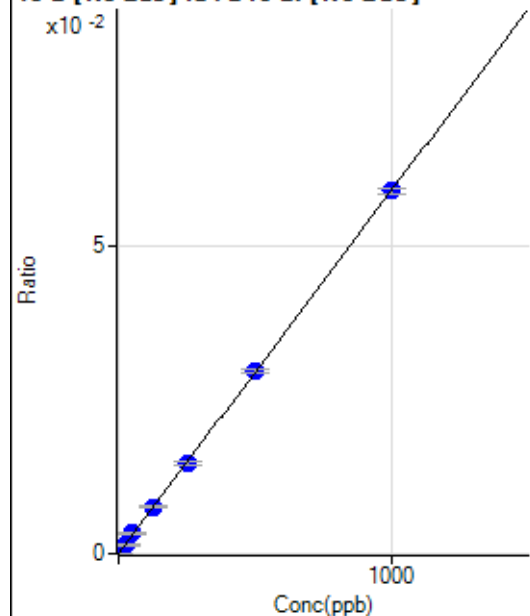
$$R = 0.9998$$

$$DL = 0.05022$$

$$BEC = 0.1369$$

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	47.22	0.0000	P	65.9
2	☐	2.500					
3	☐	25.000	23.643	2011.34	0.0014	P	8.3
4	☐	50.000	55.380	4550.90	0.0033	P	4.2
5	☐	125.000	127.804	10593.27	0.0076	P	2.9
6	☐	250.000	247.749	20351.20	0.0146	P	4.3
7	☐	500.000	502.029	40120.95	0.0296	P	2.4
8	☐	1000.000	998.963	74044.23	0.0589	P	1.4
9	☐			3456.13	0.0026	P	11.4

$$y = 5.8948E-005 * x + 3.2966E-005$$

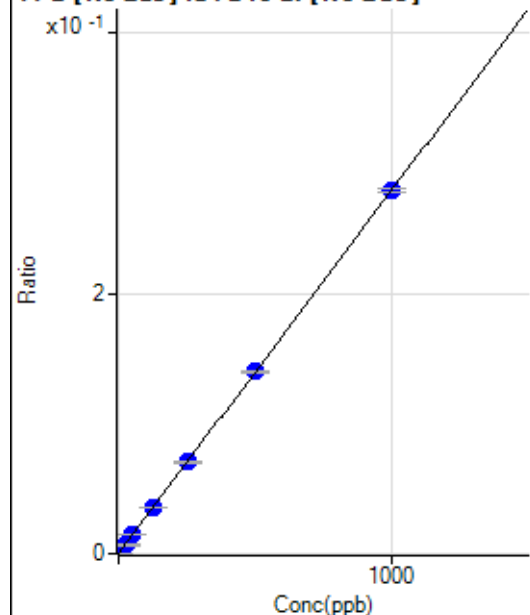
$$R = 1.0000$$

$$DL = 1.106$$

$$BEC = 0.5592$$

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	291.69	0.0002	P	20.3
2	☐	2.500					
3	☐	25.000	23.133	9381.21	0.0067	P	2.5
4	☐	50.000	52.935	20615.61	0.0150	P	7.2
5	☐	125.000	126.667	49684.12	0.0355	P	3.5
6	☐	250.000	252.583	98143.45	0.0706	P	2.9
7	☐	500.000	500.135	188968.59	0.1396	P	1.6
8	☐	1000.000	998.978	350049.73	0.2785	P	1.0
9	☐			15942.87	0.0119	P	9.9

$$y = 2.7862E-004 * x + 2.0519E-004$$

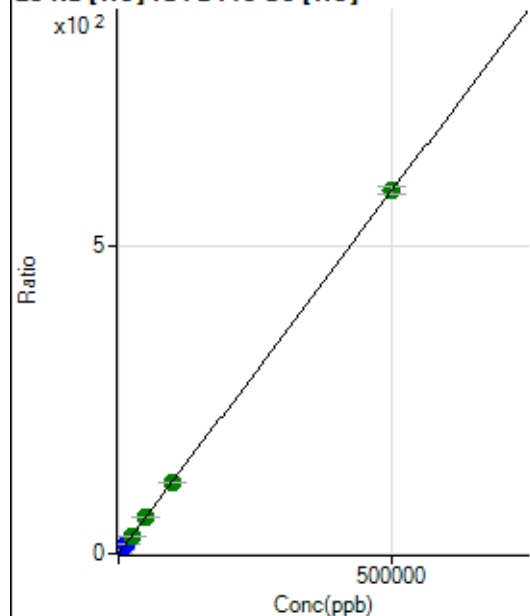
$$R = 1.0000$$

$$DL = 0.4477$$

$$BEC = 0.7365$$

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	2491.99	0.0585	P	4.3
2	☐	50.000					
3	☐	500.000	439.159	24814.14	0.5747	P	2.1
4	☐	5000.000	4838.528	236682.07	5.7461	P	1.7
5	☐	12500.000	11916.608	562415.90	14.0662	P	0.3
6	☐	25000.000	24553.461	1086420.59	28.9205	A	1.2
7	☐	50000.000	50057.306	1939702.52	58.8996	A	1.0
8	☐	100000.00	98071.508	3449444.65	115.3391	A	0.6
9	☐	500000.00	500418.55	19165097.65	588.2881	A	2.1

$$y = 0.0012 * x + 0.0585$$

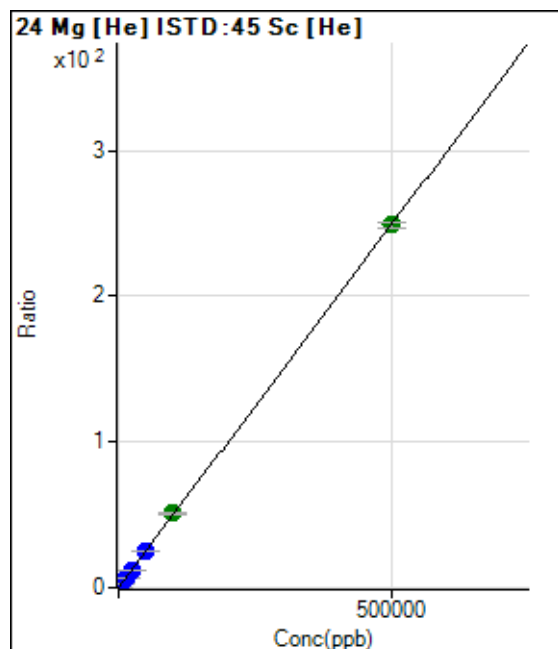
$$R = 1.0000$$

$$DL = 6.403$$

$$BEC = 49.77$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	980.63	0.0230	P	12.1
2	☐	50.000					
3	☐	500.000	444.178	10546.01	0.2444	P	5.0
4	☐	5000.000	4970.454	102954.42	2.5000	P	3.3
5	☐	12500.000	12228.899	244580.06	6.1171	P	1.2
6	☐	25000.000	24799.236	465111.39	12.3814	P	1.0
7	☐	50000.000	50385.092	827685.34	25.1318	P	1.5
8	☐	100000.00	101945.05	1520079.17	50.8261	A	0.1
9	☐	500000.00	499589.64	8112004.69	248.9874	A	1.4

$$y = 4.9834\text{E-}004 * x + 0.0230$$

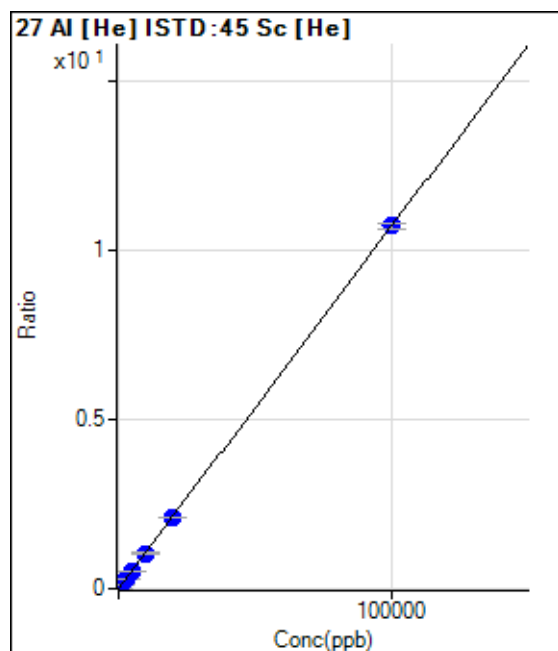
$$R = 1.0000$$

$$DL = 16.73$$

$$BEC = 46.18$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	8.33	0.0002	P	100.7
2	☐	2.000					
3	☐	20.000	23.425	116.67	0.0027	P	33.6
4	☐	1000.000	993.905	4395.34	0.1067	P	4.1
5	☐	2500.000	2454.193	10526.57	0.2633	P	2.4
6	☐	5000.000	4924.613	19833.90	0.5281	P	3.6
7	☐	10000.000	9771.784	34506.86	1.0477	P	3.0
8	☐	20000.000	19619.466	62907.13	2.1034	P	2.1
9	☐	100000.00	100103.90	349637.05	10.7312	P	1.3

$$y = 1.0720\text{E-}004 * x + 1.9625\text{E-}004$$

$$R = 1.0000$$

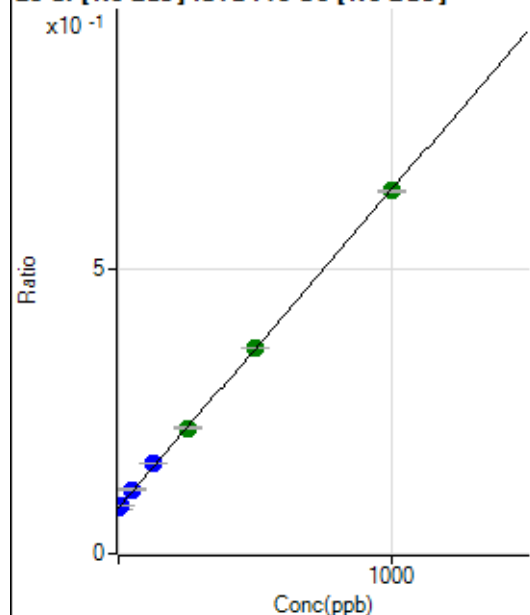
$$DL = 5.531$$

$$BEC = 1.831$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	417034.21	0.0809	P	10.3
2	☐	1.000					
3	☐	10.000	4.667	427533.56	0.0835	P	1.0
4	☐	50.000	55.800	550389.51	0.1122	P	3.5
5	☐	125.000	139.498	784537.06	0.1590	P	0.2
6	☐	250.000	251.400	1073712.86	0.2217	A	0.2
7	☐	500.000	503.642	1676074.00	0.3631	A	0.4
8	☐	1000.000	995.780	2697325.26	0.6388	A	0.4
9	☐			550704.51	0.1214	P	2.8

$$y = 5.6026\text{E-}004 * x + 0.0809$$

$$R = 0.9998$$

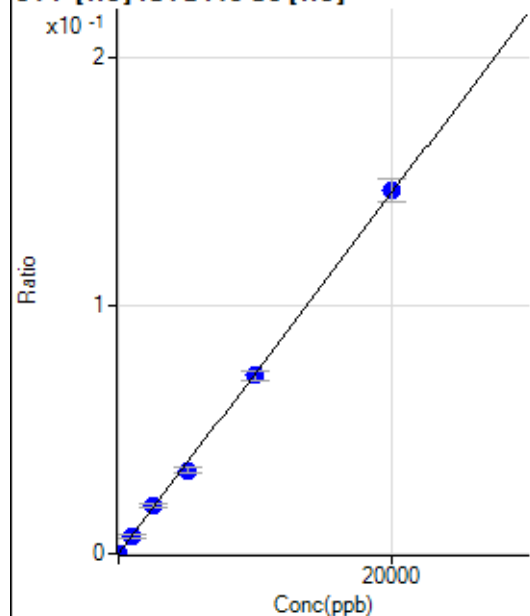
$$DL = 44.42$$

$$BEC = 144.4$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	0.000					
3	☐	0.000	0.000	0.00	0.0000	P	
4	☐	1000.000	966.294	288.91	0.0070	P	28.2
5	☐	2500.000	2683.539	780.62	0.0195	P	6.7
6	☐	5000.000	4627.343	1264.01	0.0337	P	8.4
7	☐	10000.000	9886.494	2369.77	0.0719	P	5.4
8	☐	20000.000	20128.660	4378.68	0.1465	P	6.4
9	☐			2.78	0.0001	P	173.2

$$y = 7.2761\text{E-}006 * x + 0.0000\text{E+}000$$

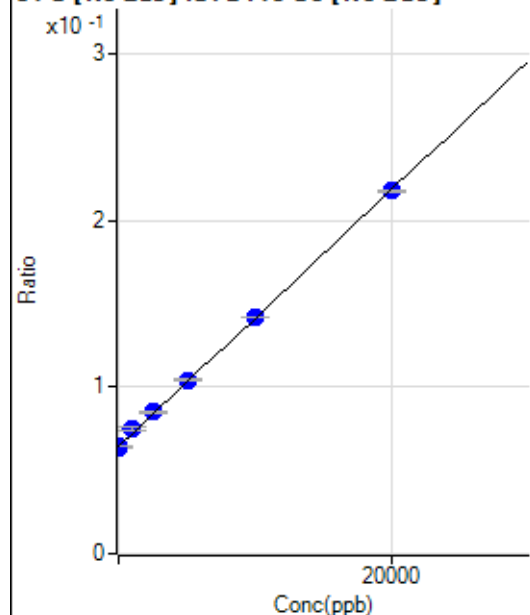
$$R = 0.9997$$

$$DL = 0$$

$$BEC = 0$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-48.360	329055.77	0.0639	P	2.8
2	☐	0.000					
3	☐	0.000	48.360	330901.31	0.0646	P	1.5
4	☐	1000.000	1414.056	368912.03	0.0752	P	2.8
5	☐	2500.000	2678.549	418846.74	0.0849	P	0.5
6	☐	5000.000	5192.989	505017.11	0.1043	P	0.4
7	☐	10000.000	10054.025	654501.73	0.1418	P	0.7
8	☐	20000.000	19881.719	918532.82	0.2175	P	0.9
9	☐			276628.03	0.0610	P	2.6

$$y = 7.7092\text{E-}006 * x + 0.0643$$

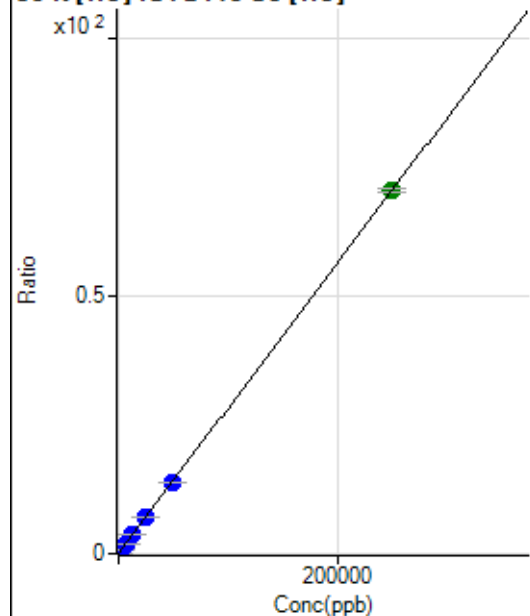
$$R = 0.9998$$

$$DL = 530.5$$

$$BEC = 8336$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2344.74	0.0550	P	3.0
2	☐	50.000					
3	☐	500.000	440.491	7716.33	0.1788	P	1.6
4	☐	2500.000	2626.554	32644.37	0.7927	P	3.2
5	☐	6250.000	6373.342	73769.17	1.8450	P	0.9
6	☐	12500.000	12837.170	137490.20	3.6603	P	1.7
7	☐	25000.000	25143.838	234360.88	7.1166	P	2.0
8	☐	50000.000	49025.069	413408.37	13.8235	P	1.0
9	☐	250000.00	250159.51	2290872.38	70.3113	A	1.0

$$y = 2.8085\text{E-}004 * x + 0.0550$$

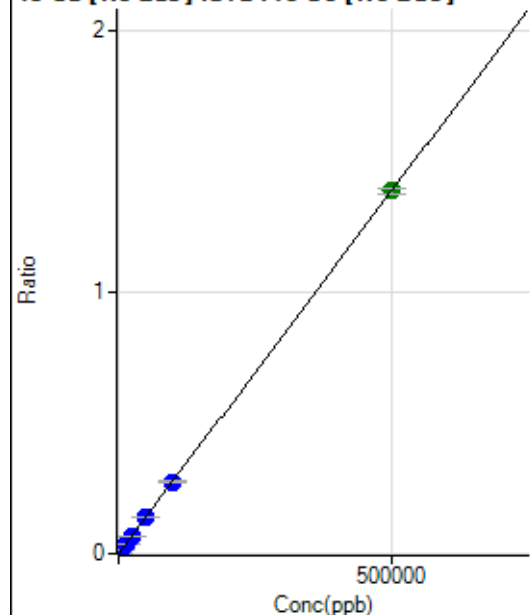
$$R = 1.0000$$

$$DL = 17.77$$

$$BEC = 196$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1086.21	0.0002	P	7.1
2	☐	50.000					
3	☐	500.000	457.917	7591.30	0.0015	P	3.2
4	☐	5000.000	5120.282	70848.78	0.0144	P	2.6
5	☐	12500.000	12372.709	170582.24	0.0346	P	0.5
6	☐	25000.000	24760.610	334075.41	0.0690	P	0.8
7	☐	50000.000	49743.455	638917.20	0.1384	P	0.7
8	☐	100000.00	99331.493	1166019.52	0.2761	P	0.8
9	☐	500000.00	500173.34	6302790.12	1.3896	A	1.7

$$y = 2.7779\text{E-}006 * x + 2.1093\text{E-}004$$

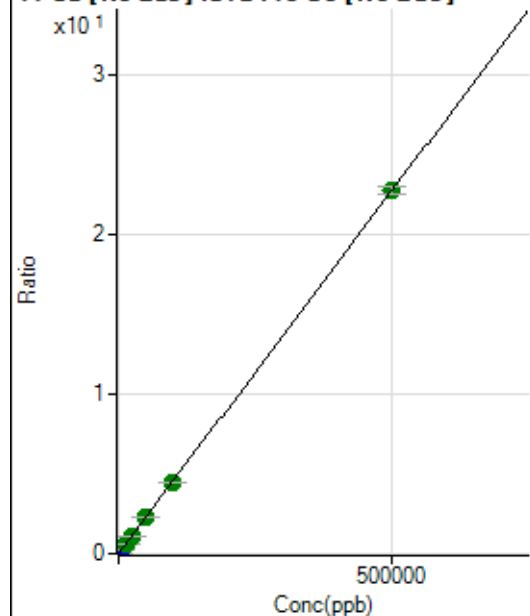
$$R = 1.0000$$

$$DL = 16.24$$

$$BEC = 75.93$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13457.03	0.0026	P	4.0
2	☐	50.000					
3	☐	500.000	444.393	116587.17	0.0228	P	2.7
4	☐	5000.000	5096.992	1147679.67	0.2339	P	3.8
5	☐	12500.000	12428.662	2794597.67	0.5665	A	0.5
6	☐	25000.000	24596.682	5416614.36	1.1186	A	0.5
7	☐	50000.000	49453.428	10370748.32	2.2464	A	0.4
8	☐	100000.00	98356.676	18855161.36	4.4653	A	0.7
9	☐	500000.00	500404.35	102985452.9	22.7072	A	2.1

$$y = 4.5372\text{E-}005 * x + 0.0026$$

$$R = 1.0000$$

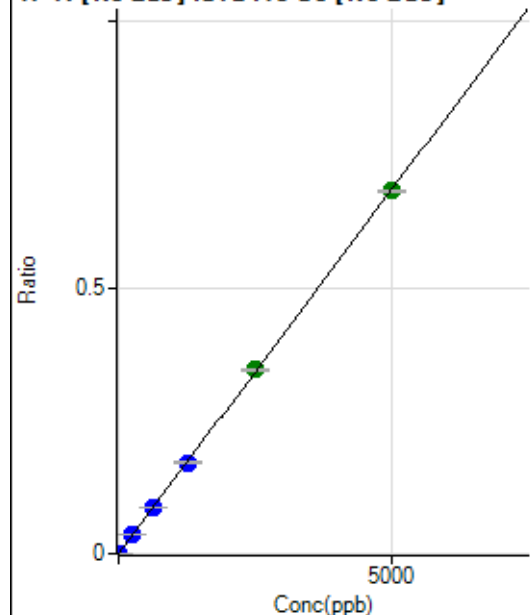
$$DL = 6.821$$

$$BEC = 57.55$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	141.68	0.0000	P	13.4
2	☐	0.500					
3	☐	5.000	4.610	3370.00	0.0007	P	3.7
4	☐	250.000	256.237	172140.13	0.0351	P	3.1
5	☐	625.000	621.364	419351.79	0.0850	P	0.1
6	☐	1250.000	1252.712	829774.53	0.1714	P	0.5
7	☐	2500.000	2525.066	1594499.43	0.3454	A	0.3
8	☐	5000.000	4986.932	2880206.62	0.6821	A	0.5
9	☐			966.74	0.0002	P	4.9

$$y = 1.3677\text{E-}004 * x + 2.7538\text{E-}005$$

$$R = 1.0000$$

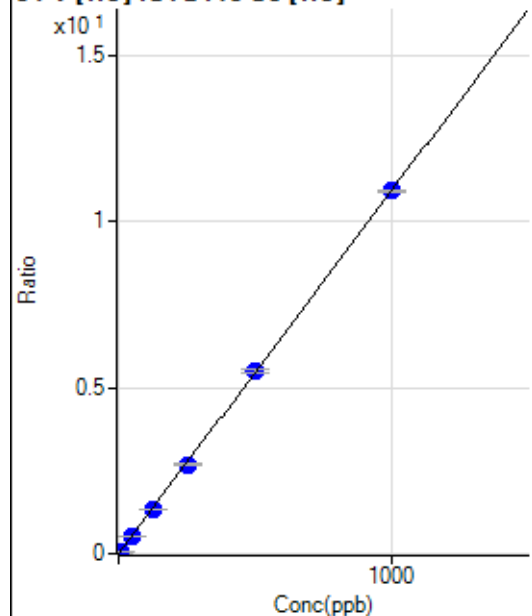
$$DL = 0.08102$$

$$BEC = 0.2013$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0003	P	26.0
2	☐	0.500					
3	☐	5.000	4.429	2101.31	0.0487	P	2.7
4	☐	50.000	49.220	22138.84	0.5375	P	2.8
5	☐	125.000	120.728	52697.73	1.3180	P	0.4
6	☐	250.000	246.208	100948.13	2.6875	P	2.1
7	☐	500.000	503.344	180929.32	5.4940	P	1.1
8	☐	1000.000	999.852	326377.08	10.9130	P	0.5
9	☐			185.56	0.0057	P	15.1

$$y = 0.0109 * x + 3.1351\text{E-}004$$

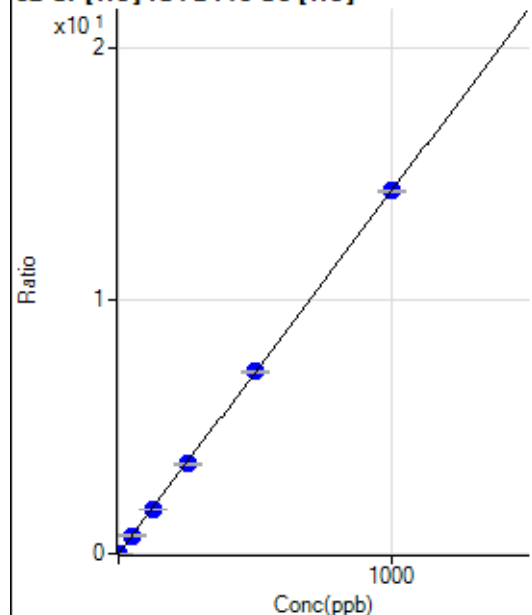
$$R = 1.0000$$

$$DL = 0.0224$$

$$BEC = 0.02873$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	304.46	0.0072	P	18.3
2	☐	0.200					
3	☐	2.000	1.895	1481.22	0.0343	P	4.2
4	☐	50.000	49.870	29723.95	0.7215	P	0.5
5	☐	125.000	121.875	70087.68	1.7529	P	0.8
6	☐	250.000	247.277	133316.18	3.5492	P	2.0
7	☐	500.000	501.622	236869.29	7.1926	P	1.3
8	☐	1000.000	1000.267	428729.11	14.3353	P	0.3
9	☐			20990.36	0.6443	P	1.2

$$y = 0.0143 * x + 0.0072$$

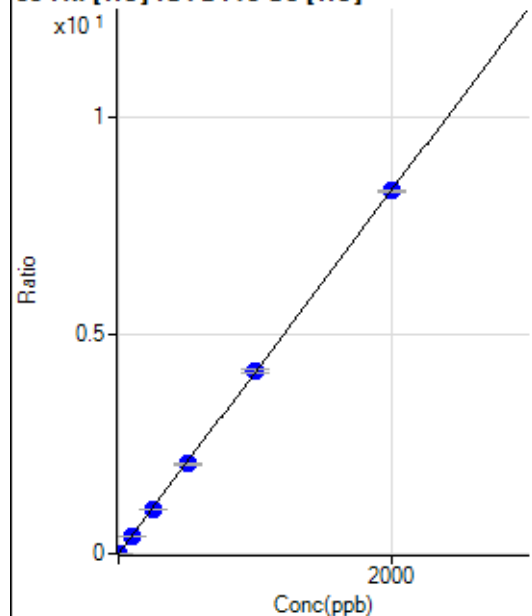
$$R = 1.0000$$

$$DL = 0.2735$$

$$BEC = 0.4993$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	31.11	0.0007	P	37.4
2	☐	0.100					
3	☐	1.000	1.002	211.12	0.0049	P	3.8
4	☐	100.000	98.299	16841.45	0.4089	P	1.7
5	☐	250.000	246.773	40995.74	1.0253	P	1.2
6	☐	500.000	494.603	77171.71	2.0543	P	1.5
7	☐	1000.000	1008.120	137868.58	4.1865	P	1.5
8	☐	2000.000	1997.778	248091.84	8.2956	P	0.7
9	☐			1352.31	0.0415	P	10.6

$$y = 0.0042 * x + 7.2949E-004$$

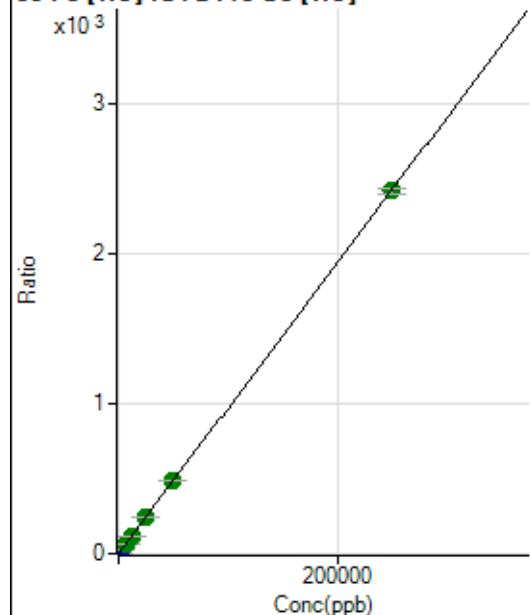
$$R = 1.0000$$

$$DL = 0.1973$$

$$BEC = 0.1757$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	2944.85	0.0691	P	2.0
2	☐	5.000					
3	☐	50.000	43.565	21220.31	0.4915	P	0.7
4	☐	2500.000	2461.338	985787.61	23.9319	P	1.5
5	☐	6250.000	6188.597	2401691.40	60.0677	A	0.8
6	☐	12500.000	12496.193	4553755.14	121.2200	A	0.7
7	☐	25000.000	25313.854	8084451.57	245.4876	A	1.4
8	☐	50000.000	50606.342	14674857.16	490.6988	A	1.1
9	☐	250000.00	249849.46	78919991.58	2,422.365	A	1.6

$$y = 0.0097 * x + 0.0691$$

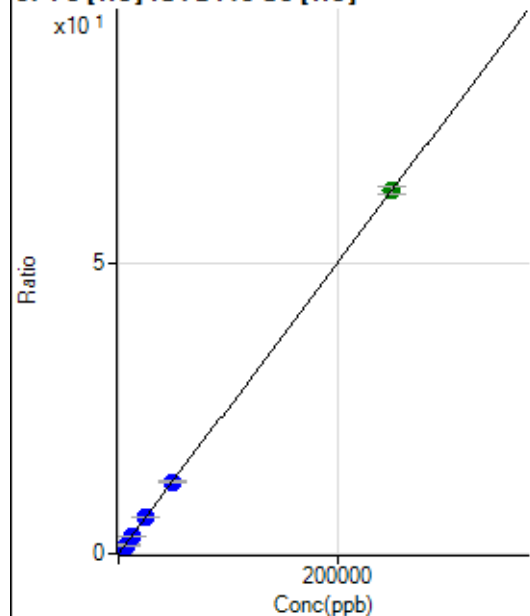
$$R = 1.0000$$

$$DL = 0.4278$$

$$BEC = 7.13$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	88.89	0.0021	P	15.7
2	☐	5.000					
3	☐	50.000	41.263	535.21	0.0124	P	22.9
4	☐	2500.000	2406.621	24789.25	0.6018	P	1.8
5	☐	6250.000	5936.991	59233.34	1.4815	P	1.0
6	☐	12500.000	12246.008	114701.36	3.0536	P	2.0
7	☐	25000.000	24977.608	205037.52	6.2260	P	1.0
8	☐	50000.000	49566.473	369427.38	12.3531	P	1.5
9	☐	250000.00	250110.40	2030449.76	62.3248	A	2.0

$$y = 2.4918E-004 * x + 0.0021$$

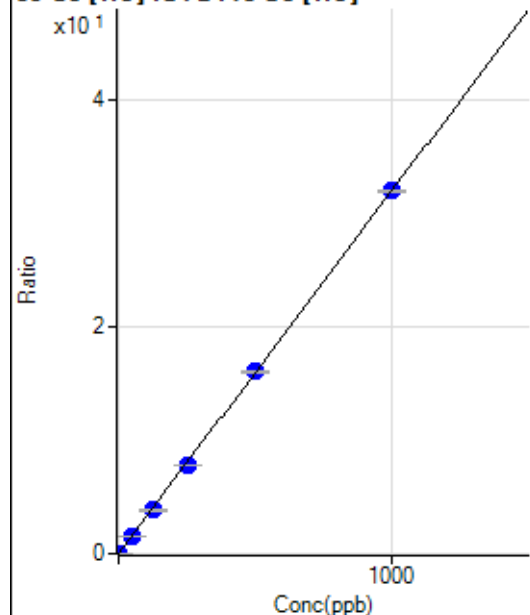
$$R = 1.0000$$

$$DL = 3.928$$

$$BEC = 8.365$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	62.22	0.0015	P	19.3
2	☐	0.100					
3	☐	1.000	0.870	1263.42	0.0293	P	7.8
4	☐	50.000	48.801	64265.14	1.5600	P	1.1
5	☐	125.000	119.523	152685.54	3.8187	P	0.4
6	☐	250.000	244.812	293759.11	7.8201	P	1.2
7	☐	500.000	502.110	528161.45	16.0375	P	0.9
8	☐	1000.000	1000.987	956125.53	31.9704	P	0.7
9	☐			12665.93	0.3888	P	2.7

$$y = 0.0319 * x + 0.0015$$

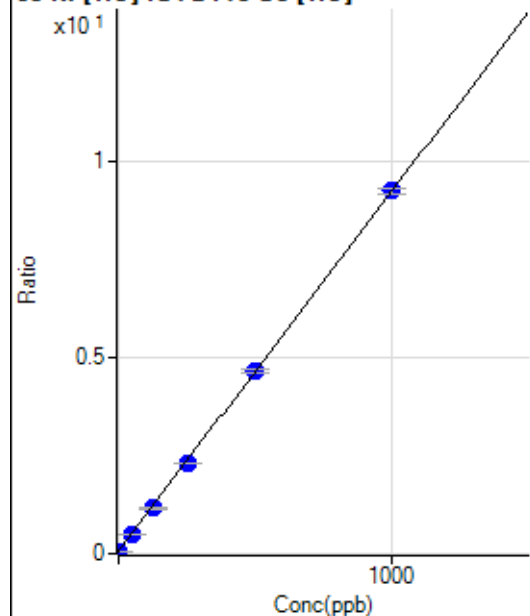
$$R = 1.0000$$

$$DL = 0.02653$$

$$BEC = 0.04577$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	3045.95	0.0715	P	2.8
2	☐	0.100					
3	☐	1.000	-1.146	2633.63	0.0610	P	2.5
4	☐	50.000	47.050	20688.87	0.5022	P	1.9
5	☐	125.000	118.111	46090.64	1.1528	P	0.9
6	☐	250.000	242.793	86177.72	2.2942	P	1.3
7	☐	500.000	501.024	153399.10	4.6582	P	1.3
8	☐	1000.000	1002.301	276540.68	9.2471	P	1.3
9	☐			12053.19	0.3700	P	2.2

$$y = 0.0092 * x + 0.0715$$

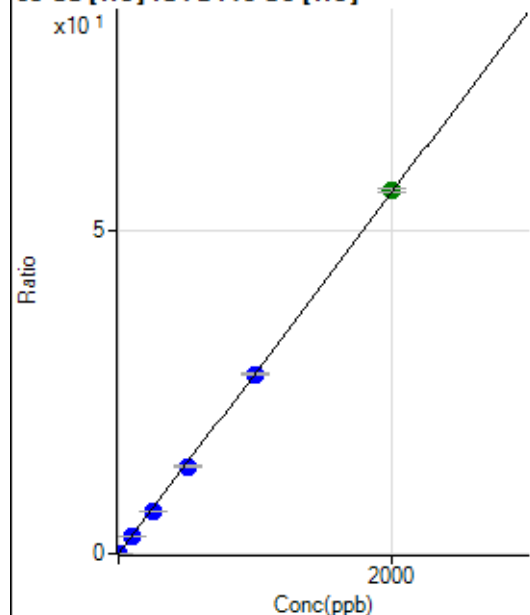
$$R = 1.0000$$

$$DL = 0.6467$$

$$BEC = 7.811$$

Weight: <None>

Min Conc: 0

63 Cu [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	195.56	0.0046	P	12.8
2	☐	0.200					
3	☐	2.000	1.754	2310.23	0.0535	P	4.3
4	☐	100.000	95.462	109920.27	2.6686	P	1.7
5	☐	250.000	234.507	261846.56	6.5489	P	0.6
6	☐	500.000	484.218	507783.69	13.5174	P	1.1
7	☐	1000.000	991.983	911816.42	27.6874	P	1.2
8	☐	2000.000	2010.118	1677733.20	56.1000	A	1.2
9	☐			3772.79	0.1158	P	4.5

$$y = 0.0279 * x + 0.0046$$

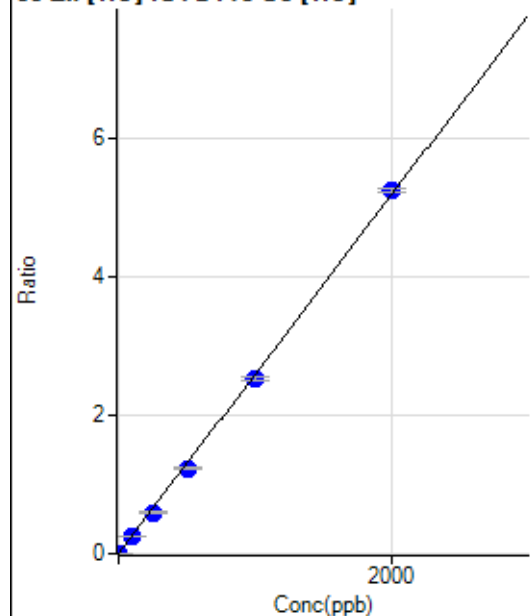
$$R = 0.9999$$

$$DL = 0.06321$$

$$BEC = 0.1645$$

Weight: <None>

Min Conc: 0

66 Zn [He] ISTD:45 Sc [He]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0009	P	47.2
2	☐	0.200					
3	☐	2.000	1.676	224.45	0.0052	P	4.4
4	☐	100.000	94.738	10140.52	0.2462	P	2.3
5	☐	250.000	229.185	23763.92	0.5943	P	1.5
6	☐	500.000	474.905	46228.10	1.2306	P	1.2
7	☐	1000.000	975.168	83189.72	2.5261	P	1.3
8	☐	2000.000	2021.555	156580.66	5.2358	P	1.0
9	☐			1075.61	0.0330	P	3.6

$$y = 0.0026 * x + 8.6069E-004$$

$$R = 0.9998$$

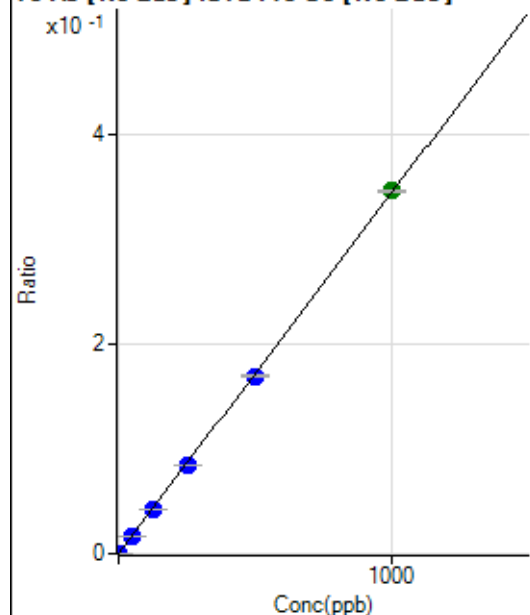
$$DL = 0.471$$

$$BEC = 0.3324$$

Weight: <None>

Min Conc: 0

75 As [No Gas] ISTD:45 Sc [No Gas]



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	591.59	0.0001	P	11.3
2	☐	0.100					
3	☐	1.000	0.902	2176.20	0.0004	P	4.1
4	☐	50.000	49.756	84621.43	0.0172	P	2.1
5	☐	125.000	120.487	205105.51	0.0416	P	1.0
6	☐	250.000	245.167	409103.54	0.0845	P	1.1
7	☐	500.000	491.354	781149.45	0.1692	P	1.0
8	☐	1000.000	1006.108	1462525.05	0.3464	A	0.6
9	☐			3235.70	0.0007	P	2.2

$$y = 3.4414\text{E-}004 * x + 1.1473\text{E-}004$$

$$R = 0.9999$$

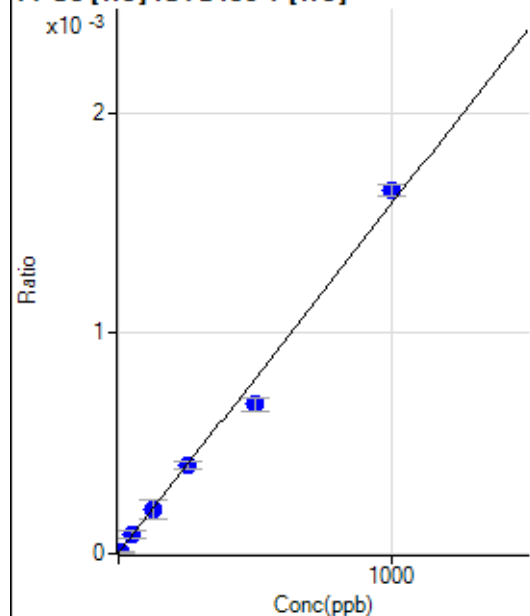
$$DL = 0.1135$$

$$BEC = 0.3334$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.2
2	☐	0.500					
3	☐	5.000	2.133	2.22	0.0000	P	86.6
4	☐	50.000	52.826	26.67	0.0001	P	44.6
5	☐	125.000	123.880	60.00	0.0002	P	45.0
6	☐	250.000	251.769	117.78	0.0004	P	8.4
7	☐	500.000	425.039	178.89	0.0007	P	9.3
8	☐	1000.000	1037.051	406.68	0.0016	P	3.1
9	☐			0.00	0.0000	P	

$$y = 1.5832\text{E-}006 * x + 3.6275\text{E-}006$$

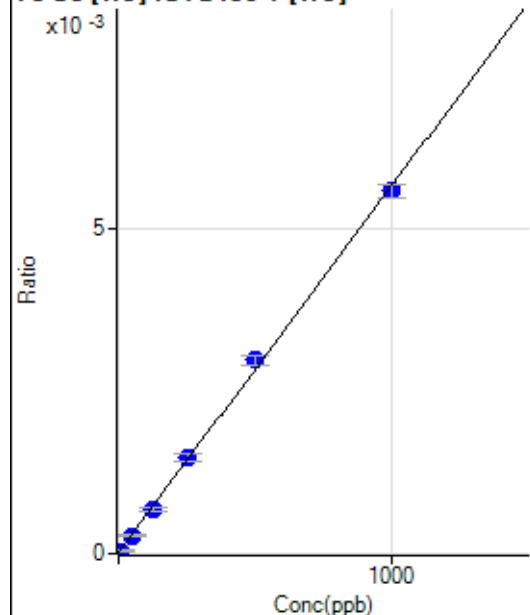
$$R = 0.9959$$

$$DL = 11.91$$

$$BEC = 2.291$$

Weight: <None>

Min Conc: 0

78 Se [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	16.6
2	☐	0.500					
3	☐	5.000	3.451	12.35	0.0000	P	31.2
4	☐	50.000	46.252	85.81	0.0003	P	9.6
5	☐	125.000	116.917	204.94	0.0007	P	7.1
6	☐	250.000	257.567	431.49	0.0015	P	7.7
7	☐	500.000	525.301	790.15	0.0030	P	4.8
8	☐	1000.000	986.663	1381.56	0.0056	P	3.9
9	☐			1.23	0.0000	P	86.6

$$y = 5.6484\text{E-}006 * x + 1.9755\text{E-}005$$

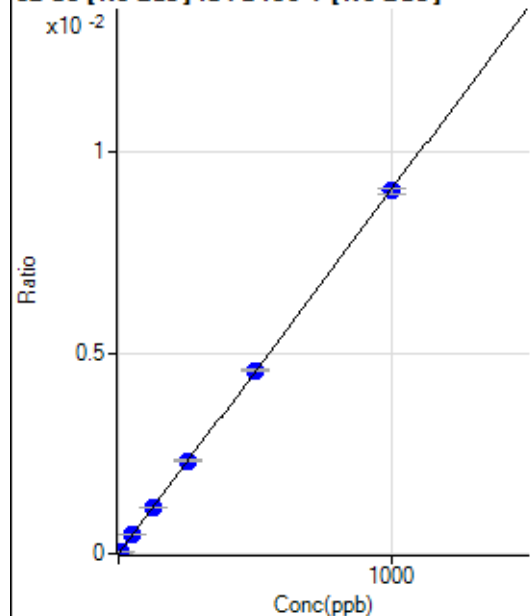
$$R = 0.9994$$

$$DL = 1.746$$

$$BEC = 3.497$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-22.23	0.0000	P	-121.
2	☐	0.500					
3	☐	5.000	4.671	381.82	0.0000	P	2.5
4	☐	50.000	53.480	4501.13	0.0005	P	1.7
5	☐	125.000	128.117	10910.37	0.0012	P	1.4
6	☐	250.000	255.120	21797.67	0.0023	P	1.3
7	☐	500.000	504.002	42319.73	0.0046	P	0.9
8	☐	1000.000	996.157	78645.55	0.0090	P	1.3
9	☐			146.21	0.0000	P	24.1

$$y = 9.0694\text{E-}006 * x - 2.3129\text{E-}006$$

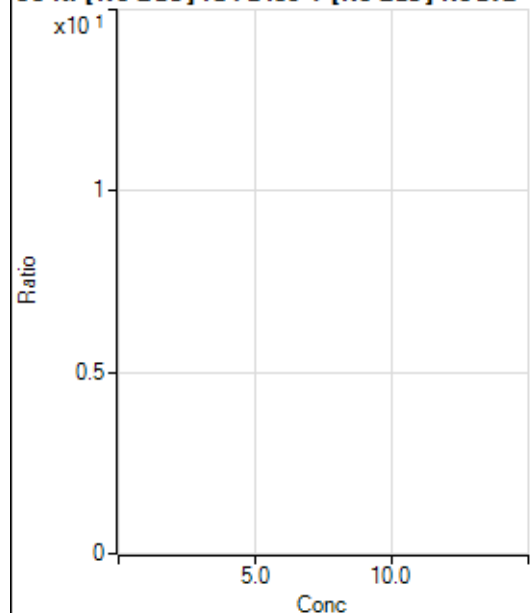
$$R = 1.0000$$

$$DL = 0.926$$

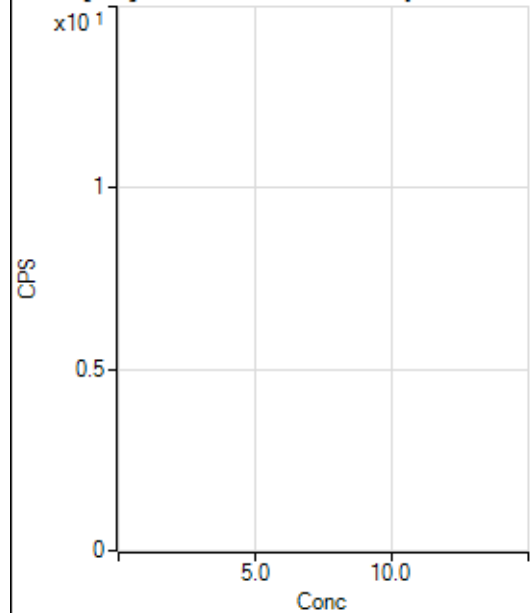
$$BEC = -0.255$$

Weight: <None>

Min Conc: 0

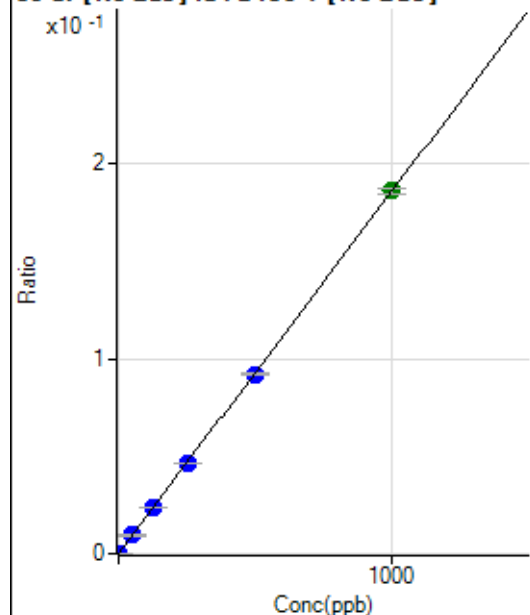
83 Kr [No Gas] ISTD:89 Y [No Gas] No av...

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			277.79	0.0000	P	12.6
2	☐						
3	☐			273.34	0.0000	P	9.5
4	☐			265.56	0.0000	P	7.9
5	☐			263.34	0.0000	P	7.7
6	☐			264.45	0.0000	P	4.4
7	☐			215.56	0.0000	P	11.1
8	☐			196.67	0.0000	P	4.7
9	☐			201.12	0.0000	P	11.3

83 Kr [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			2.22		P	86.6
2	☐						
3	☐			4.44		P	114.6
4	☐			4.44		P	43.4
5	☐			5.55		P	69.3
6	☐			3.33		P	0.0
7	☐			4.45		P	86.6
8	☐			1.11		P	173.2
9	☐			1.11		P	173.2

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	338.91	0.0000	P	13.5
2	☐	0.100					
3	☐	1.000	0.997	2100.26	0.0002	P	3.4
4	☐	50.000	51.074	88536.78	0.0095	P	5.4
5	☐	125.000	125.468	219226.90	0.0233	P	1.1
6	☐	250.000	249.569	436729.20	0.0463	P	1.0
7	☐	500.000	495.057	850646.42	0.0918	P	0.7
8	☐	1000.000	1002.467	1618844.77	0.1859	A	1.3
9	☐			57427.22	0.0063	P	0.4

$$y = 1.8543\text{E-}004 * x + 3.5481\text{E-}005$$

$$R = 1.0000$$

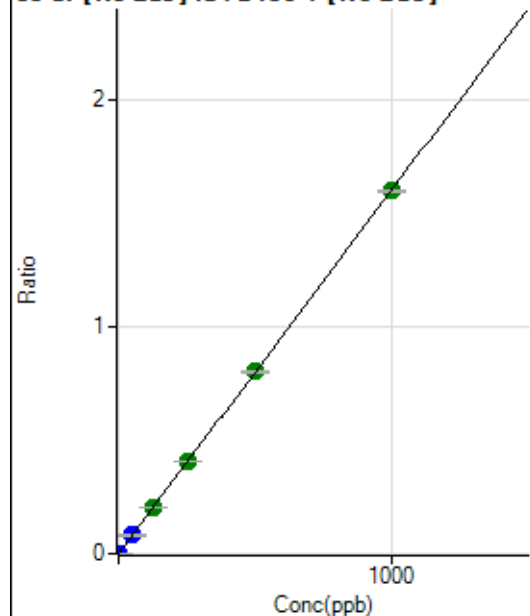
$$DL = 0.07762$$

$$BEC = 0.1913$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	222.24	0.0000	P	29.9
2	☐	0.100					
3	☐	1.000	0.942	14608.46	0.0015	P	2.0
4	☐	50.000	51.410	767305.77	0.0824	P	4.6
5	☐	125.000	128.223	1932421.44	0.2054	A	1.4
6	☐	250.000	253.897	3835151.65	0.4067	A	0.4
7	☐	500.000	500.290	7422841.31	0.8013	A	0.5
8	☐	1000.000	998.407	13924723.75	1.5991	A	0.7
9	☐			496689.06	0.0548	P	1.0

$$y = 0.0016 * x + 2.3239\text{E-}005$$

$$R = 1.0000$$

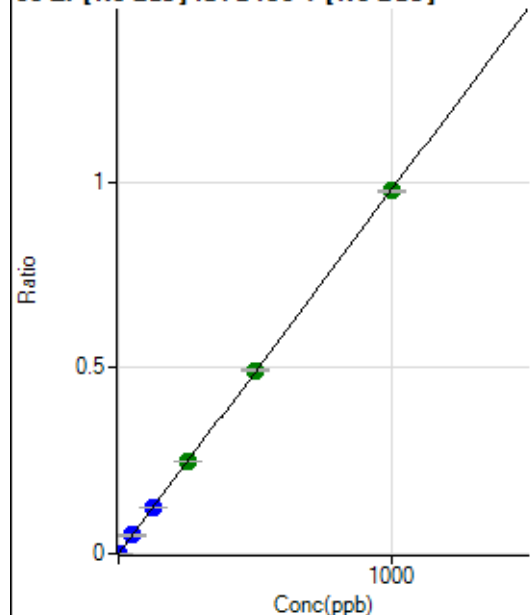
$$DL = 0.01301$$

$$BEC = 0.01451$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	522.26	0.0001	P	12.7
2	☐	0.100					
3	☐	1.000	0.917	9084.01	0.0010	P	5.2
4	☐	50.000	50.932	465224.12	0.0499	P	4.7
5	☐	125.000	125.744	1159286.84	0.1232	P	1.0
6	☐	250.000	254.097	2347457.19	0.2489	A	1.1
7	☐	500.000	503.023	4564235.17	0.4927	A	0.8
8	☐	1000.000	997.324	8506365.47	0.9769	A	0.6
9	☐			2667.05	0.0003	P	3.4

$$y = 9.7944\text{E-}004 * x + 5.4659\text{E-}005$$

$$R = 1.0000$$

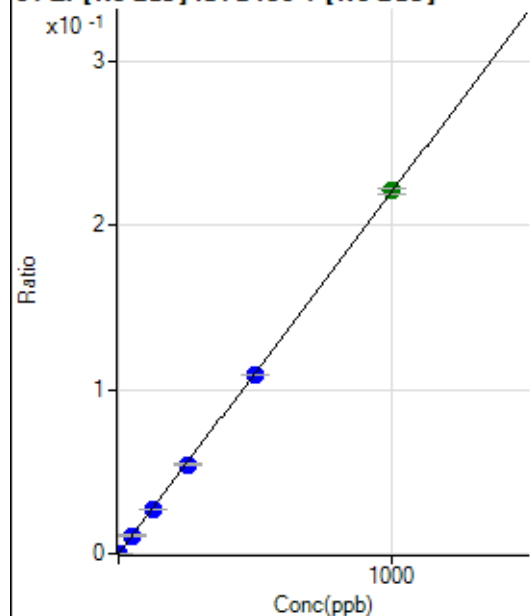
$$DL = 0.02123$$

$$BEC = 0.05581$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	147.23	0.0000	P	21.9
2	☐	0.100					
3	☐	1.000	0.905	2041.91	0.0002	P	11.7
4	☐	50.000	49.879	102353.01	0.0110	P	4.7
5	☐	125.000	123.682	256128.43	0.0272	P	0.4
6	☐	250.000	247.292	513081.25	0.0544	P	1.7
7	☐	500.000	494.536	1007781.47	0.1088	P	0.8
8	☐	1000.000	1003.580	1922286.52	0.2208	A	1.4
9	☐			727.83	0.0001	P	8.3

$$y = 2.1996\text{E-}004 * x + 1.5383\text{E-}005$$

$$R = 1.0000$$

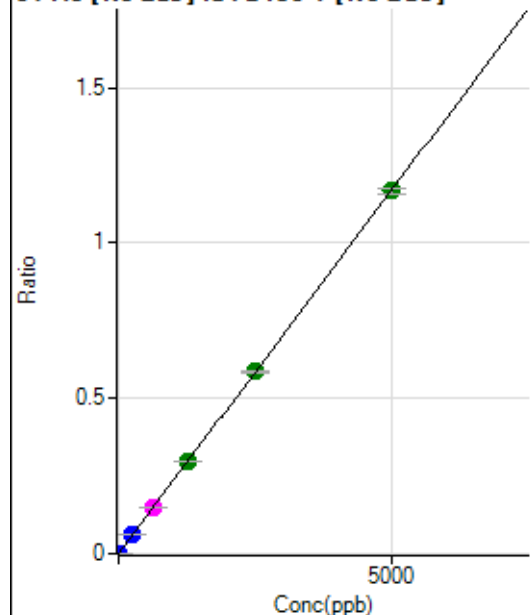
$$DL = 0.04603$$

$$BEC = 0.06994$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	280.57	0.0000	P	33.4
2	☐	0.500					
3	☐	5.000	4.665	10682.38	0.0011	P	0.5
4	☐	250.000	257.596	561731.42	0.0603	P	3.9
5	☐	625.000	628.954	1384502.82	0.1472	M	1.5
6	☐	1250.000	1268.242	2797933.29	0.2967	A	0.8
7	☐	2500.000	2504.704	5427507.41	0.5859	A	0.9
8	☐	5000.000	4992.214	10168255.78	1.1678	A	1.5
9	☐			14741.97	0.0016	P	4.9

$$y = 2.3392\text{E-}004 * x + 2.9453\text{E-}005$$

$$R = 1.0000$$

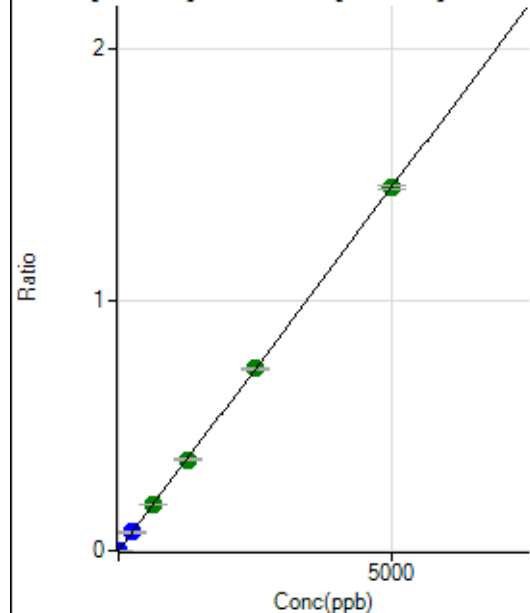
$$DL = 0.1261$$

$$BEC = 0.1259$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.01	0.0000	P	29.7
2	☐	0.500					
3	☐	5.000	4.628	12931.67	0.0014	P	5.2
4	☐	250.000	253.710	685486.82	0.0736	P	3.9
5	☐	625.000	634.030	1729532.37	0.1838	A	1.8
6	☐	1250.000	1256.729	3435814.27	0.3644	A	1.6
7	☐	2500.000	2505.363	6728183.66	0.7264	A	0.9
8	☐	5000.000	4994.323	12607876.84	1.4479	A	0.9
9	☐			24523.01	0.0027	P	4.2

$$y = 2.8991\text{E-}004 * x + 1.5750\text{E-}005$$

$$R = 1.0000$$

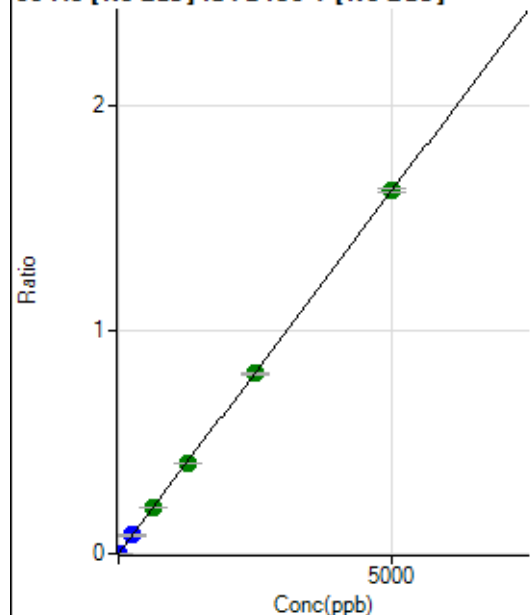
$$DL = 0.04848$$

$$BEC = 0.05433$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	208.34	0.0000	P	34.0
2	☐	0.500					
3	☐	5.000	4.490	14074.57	0.0015	P	1.7
4	☐	250.000	252.223	761727.11	0.0818	P	4.1
5	☐	625.000	633.041	1930282.33	0.2052	A	0.9
6	☐	1250.000	1248.201	3814502.91	0.4045	A	1.0
7	☐	2500.000	2490.641	7476154.33	0.8071	A	1.2
8	☐	5000.000	5004.014	14119585.04	1.6216	A	1.1
9	☐			27798.81	0.0031	P	5.0

$$y = 3.2405\text{E-}004 * x + 2.1849\text{E-}005$$

$$R = 1.0000$$

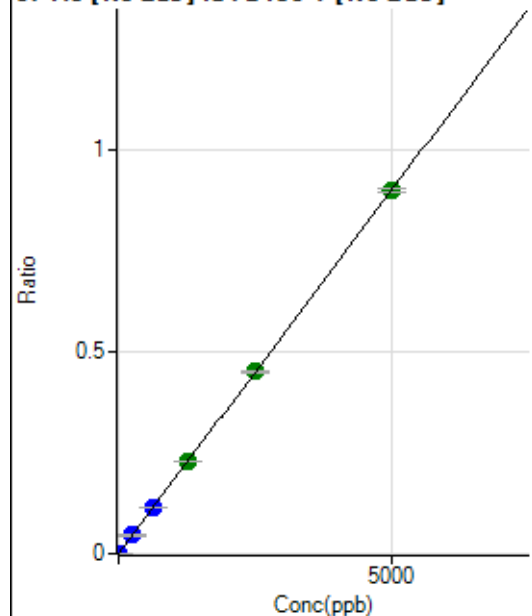
$$DL = 0.06876$$

$$BEC = 0.06743$$

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	111.12	0.0000	P	59.0
2	☐	0.500					
3	☐	5.000	4.499	7835.95	0.0008	P	3.7
4	☐	250.000	254.425	427255.81	0.0459	P	3.6
5	☐	625.000	624.618	1058976.11	0.1125	P	0.5
6	☐	1250.000	1269.674	2157250.44	0.2288	A	1.6
7	☐	2500.000	2505.008	4180761.16	0.4513	A	1.0
8	☐	5000.000	4992.404	7832163.37	0.8995	A	1.2
9	☐			15512.22	0.0017	P	9.0

$$y = 1.8017\text{E-}004 * x + 1.1708\text{E-}005$$

$$R = 1.0000$$

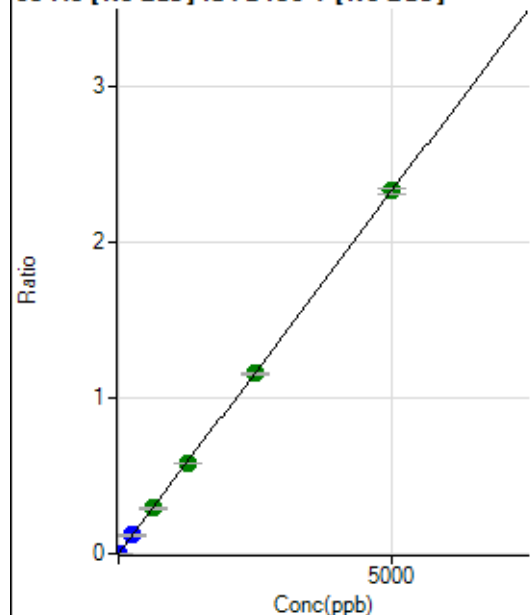
$$DL = 0.1149$$

$$BEC = 0.06498$$

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	261.13	0.0000	P	26.1
2	☐	0.500					
3	☐	5.000	4.469	20101.87	0.0021	P	3.5
4	☐	250.000	252.768	1097453.32	0.1178	P	4.3
5	☐	625.000	625.194	2740940.41	0.2913	A	1.1
6	☐	1250.000	1246.432	5476568.48	0.5808	A	1.1
7	☐	2500.000	2488.144	10738403.71	1.1593	A	1.1
8	☐	5000.000	5006.658	20311405.14	2.3327	A	1.3
9	☐			39670.05	0.0044	P	3.8

$$y = 4.6591\text{E-}004 * x + 2.7225\text{E-}005$$

$$R = 1.0000$$

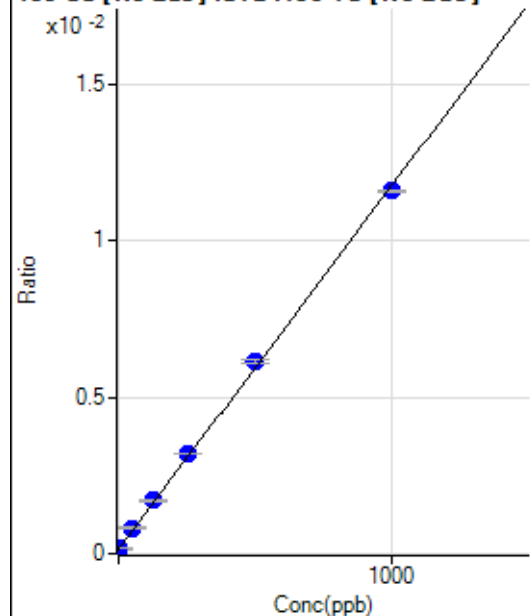
$$DL = 0.04581$$

$$BEC = 0.05843$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1614.07	0.0001	P	4.0
2	☐	0.100					
3	☐	1.000	2.390	1925.23	0.0002	P	5.8
4	☐	50.000	59.060	9284.12	0.0008	P	5.5
5	☐	125.000	135.055	19723.46	0.0017	P	2.5
6	☐	250.000	263.190	37483.66	0.0032	P	0.5
7	☐	500.000	516.932	72905.89	0.0061	P	1.1
8	☐	1000.000	986.525	137031.26	0.0116	P	0.4
9	☐			1711.31	0.0001	P	11.6

$$y = 1.1606\text{E-}005 * x + 1.3859\text{E-}004$$

$$R = 0.9997$$

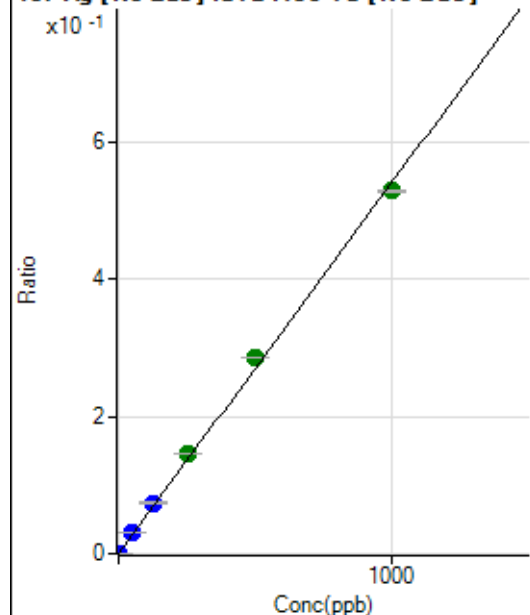
$$DL = 1.443$$

$$BEC = 11.94$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.12	0.0000	P	22.9
2	☐	0.100					
3	☐	1.000	1.011	6401.81	0.0006	P	2.6
4	☐	50.000	56.485	343924.06	0.0305	P	5.0
5	☐	125.000	136.663	853564.44	0.0738	P	1.5
6	☐	250.000	270.349	1714409.13	0.1460	A	1.0
7	☐	500.000	528.599	3391555.59	0.2856	A	0.7
8	☐	1000.000	978.831	6252776.87	0.5288	A	0.4
9	☐			836.18	0.0001	P	7.0

$$y = 5.4019\text{E-}004 * x + 7.3827\text{E-}006$$

$$R = 0.9991$$

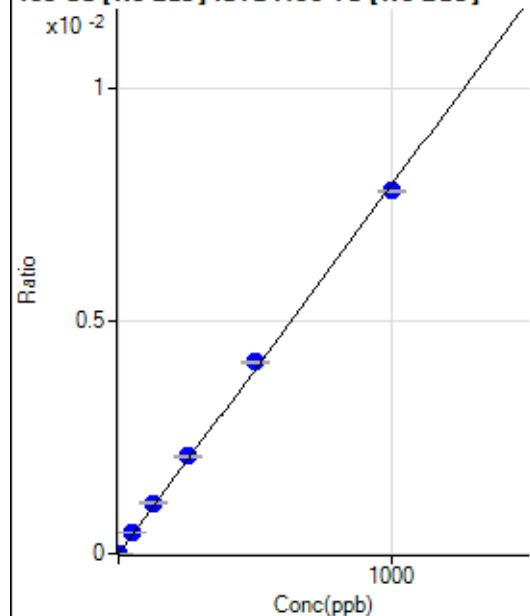
$$DL = 0.009385$$

$$BEC = 0.01367$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11.11	0.0000	P	58.5
2	☐	0.100					
3	☐	1.000	1.074	109.73	0.0000	P	10.4
4	☐	50.000	56.764	5084.41	0.0005	P	5.3
5	☐	125.000	137.086	12582.49	0.0011	P	1.9
6	☐	250.000	264.060	24599.10	0.0021	P	1.5
7	☐	500.000	520.318	49032.06	0.0041	P	1.3
8	☐	1000.000	984.477	92357.86	0.0078	P	0.9
9	☐			61.11	0.0000	P	36.2

$$y = 7.9325\text{E-}006 * x + 9.5822\text{E-}007$$

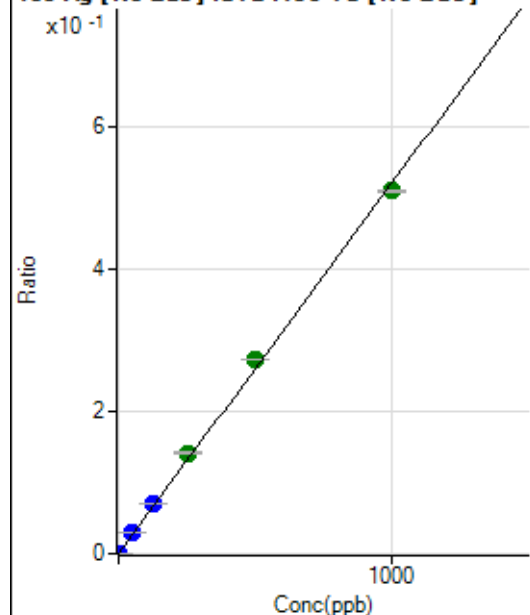
$$R = 0.9995$$

$$DL = 0.2121$$

$$BEC = 0.1208$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.22	0.0000	P	43.3
2	☐	0.100					
3	☐	1.000	1.026	6223.95	0.0005	P	4.0
4	☐	50.000	56.250	330161.96	0.0293	P	4.4
5	☐	125.000	135.790	817505.27	0.0707	P	1.2
6	☐	250.000	271.400	1658849.52	0.1413	A	2.0
7	☐	500.000	525.282	3248689.81	0.2735	A	0.7
8	☐	1000.000	980.348	6036621.36	0.5105	A	0.5
9	☐			833.40	0.0001	P	6.4

$$y = 5.2071\text{E-}004 * x + 4.0474\text{E-}006$$

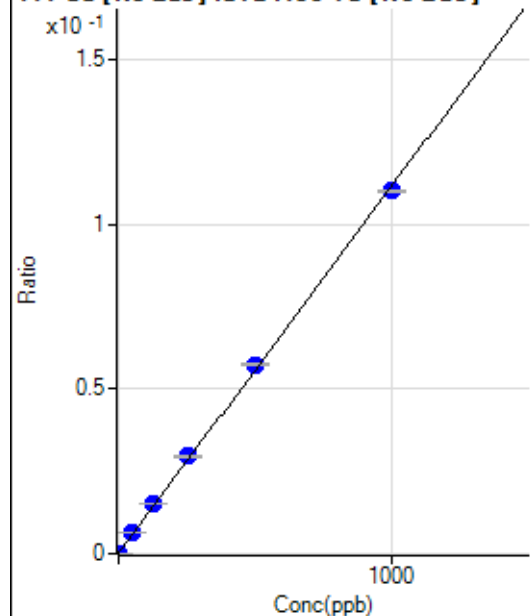
$$R = 0.9992$$

$$DL = 0.0101$$

$$BEC = 0.007773$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1142.90	0.0001	P	4.1
2	☐	0.100					
3	☐	1.000	1.127	2587.61	0.0002	P	1.5
4	☐	50.000	55.490	70785.04	0.0063	P	4.2
5	☐	125.000	133.791	173461.16	0.0150	P	0.7
6	☐	250.000	263.976	346369.55	0.0295	P	0.9
7	☐	500.000	514.666	682166.53	0.0574	P	0.4
8	☐	1000.000	987.800	1302479.60	0.1101	P	0.7
9	☐			1500.99	0.0001	P	9.4

$$y = 1.1141\text{E-}004 * x + 9.8133\text{E-}005$$

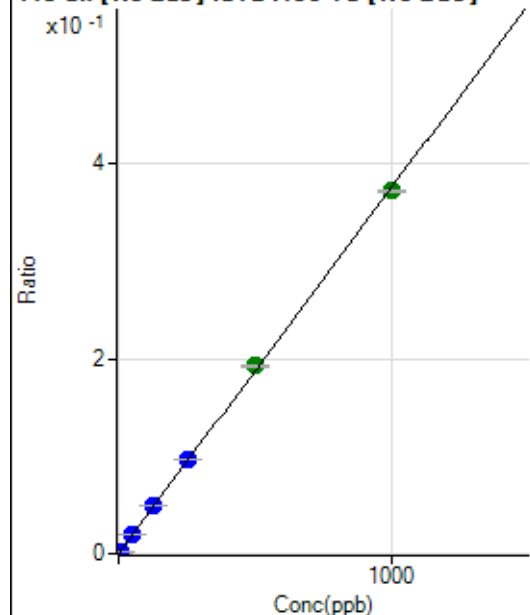
$$R = 0.9997$$

$$DL = 0.1074$$

$$BEC = 0.8809$$

Weight: <None>

Min Conc: 0

118 Sn [No Gas] ISTD :159 Tb [No Gas]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	652.83	0.0001	P	5.5
2	☐	0.500					
3	☐	5.000	4.690	21000.57	0.0018	P	2.5
4	☐	50.000	53.276	225938.06	0.0200	P	4.6
5	☐	125.000	130.283	565840.89	0.0489	P	1.4
6	☐	250.000	257.348	1134228.93	0.0966	P	1.0
7	☐	500.000	512.363	2284137.59	0.1923	A	1.1
8	☐	1000.000	991.159	4398870.28	0.3720	A	0.6
9	☐			8105.60	0.0007	P	1.5

$$y = 3.7525\text{E-}004 * x + 5.6028\text{E-}005$$

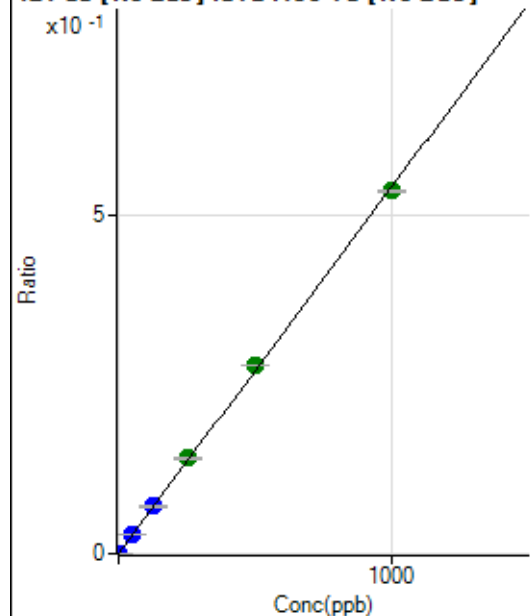
$$R = 0.9998$$

$$DL = 0.02448$$

$$BEC = 0.1493$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	241.68	0.0000	P	13.1
2	☐	0.200					
3	☐	2.000	1.875	11991.95	0.0010	P	2.5
4	☐	50.000	52.275	319494.79	0.0283	P	4.5
5	☐	125.000	128.723	806711.14	0.0698	P	0.7
6	☐	250.000	261.723	1665029.70	0.1418	A	1.5
7	☐	500.000	512.681	3299996.73	0.2778	A	0.4
8	☐	1000.000	990.150	6345175.01	0.5366	A	0.6
9	☐			22338.90	0.0018	P	8.0

$$y = 5.4190\text{E-}004 * x + 2.0724\text{E-}005$$

$$R = 0.9998$$

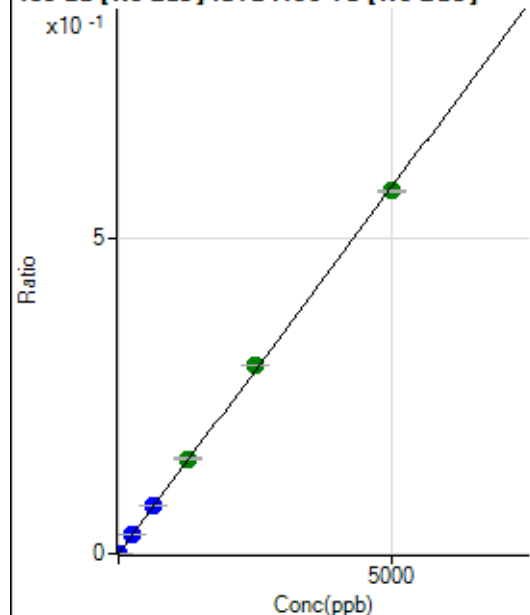
$$DL = 0.01507$$

$$BEC = 0.03824$$

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	58.34	0.0000	P	90.1
2	☐	1.000					
3	☐	10.000	9.312	12595.39	0.0011	P	3.3
4	☐	250.000	265.939	348873.51	0.0310	P	4.1
5	☐	625.000	648.601	872658.04	0.0755	P	0.7
6	☐	1250.000	1298.675	1773906.59	0.1511	A	1.9
7	☐	2500.000	2565.889	3546415.57	0.2986	A	0.3
8	☐	5000.000	4951.141	6813086.61	0.5761	A	0.4
9	☐			2564.26	0.0002	P	10.0

$$y = 1.1637\text{E-}004 * x + 5.0341\text{E-}006$$

$$R = 0.9998$$

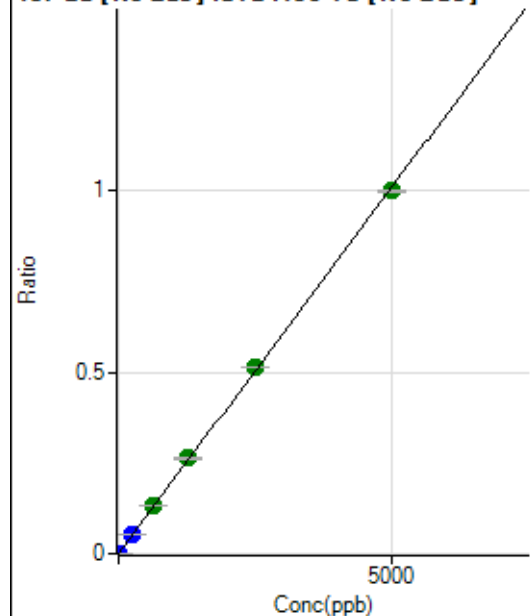
$$DL = 0.117$$

$$BEC = 0.04326$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	97.23	0.0000	P	34.0
2	☐	1.000					
3	☐	10.000	9.408	22021.91	0.0019	P	1.3
4	☐	250.000	267.643	607761.17	0.0539	P	4.7
5	☐	625.000	655.473	1526822.63	0.1321	A	1.1
6	☐	1250.000	1308.204	3093665.91	0.2636	A	2.0
7	☐	2500.000	2549.295	6100177.00	0.5136	A	0.4
8	☐	5000.000	4956.112	11807392.89	0.9985	A	0.6
9	☐			4248.10	0.0003	P	6.6

$$y = 2.0147\text{E-}004 * x + 8.3322\text{E-}006$$

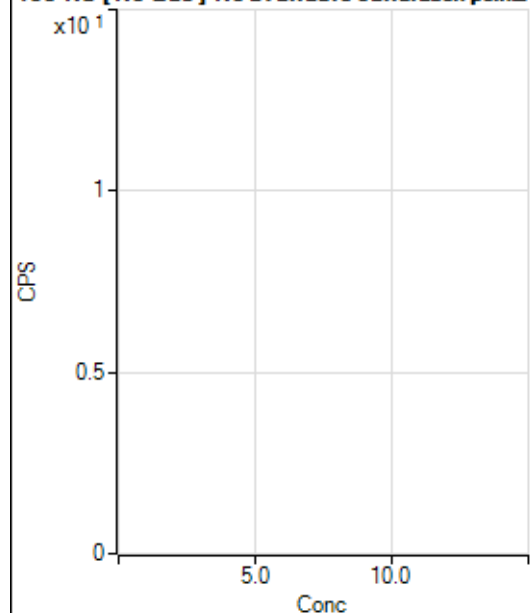
$$R = 0.9998$$

$$DL = 0.0422$$

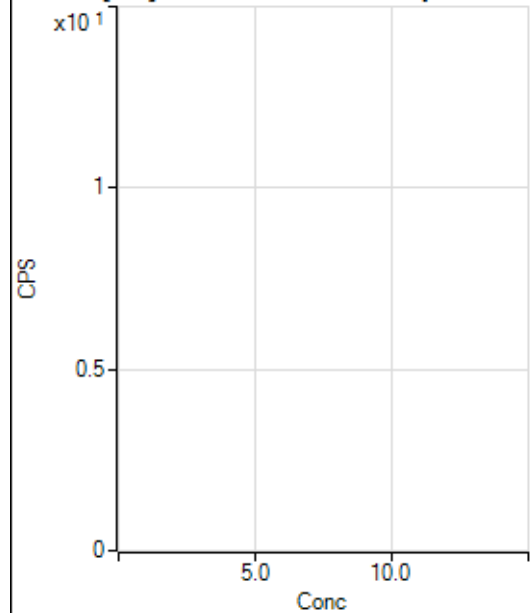
$$BEC = 0.04136$$

Weight: <None>

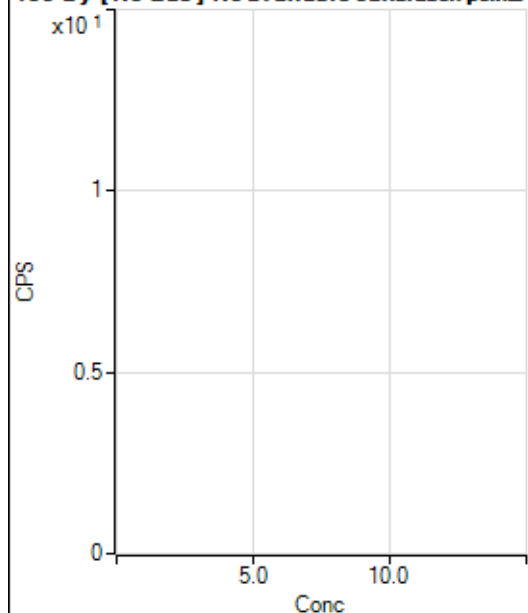
Min Conc: 0

150 Nd [No Gas] No available calibration points

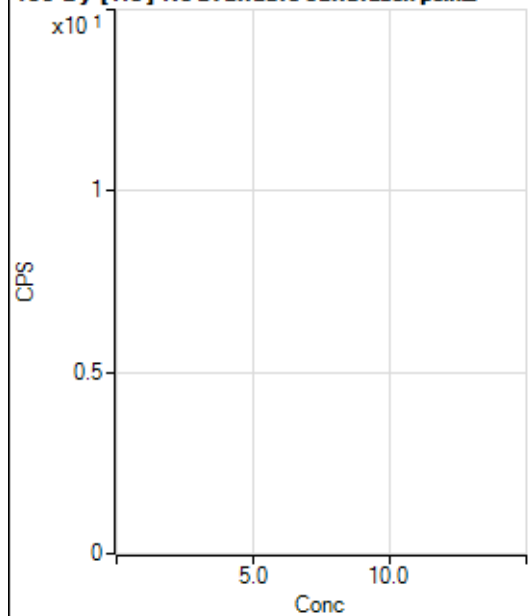
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			17.78		P	21.7
2	☐						
3	☐			20.00		P	57.7
4	☐			15.56		P	65.5
5	☐			48.89		P	43.8
6	☐			68.89		P	29.6
7	☐			137.78		P	14.0
8	☐			395.58		P	3.5
9	☐			75.56		P	45.3

150 Nd [He] No available calibration points

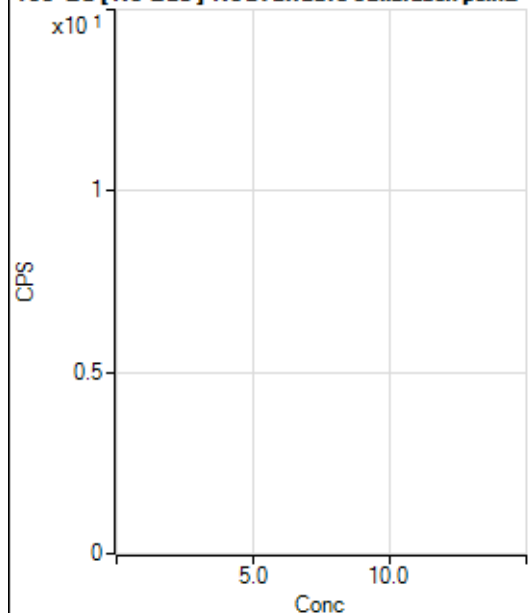
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			0.00		P	
2	☐						
3	☐			0.00		P	
4	☐			3.33		P	100.1
5	☐			2.22		P	86.6
6	☐			2.22		P	173.2
7	☐			2.22		P	86.6
8	☐			21.11		P	55.4
9	☐			5.55		P	69.3

156 Dy [No Gas] No available calibration points

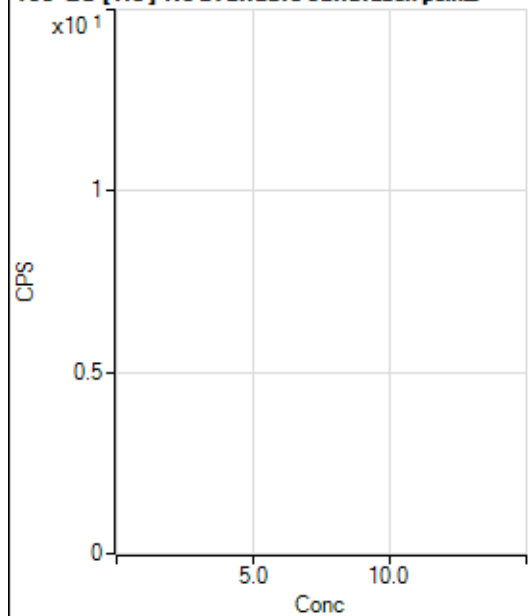
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			13.89		P	69.3
2	☐						
3	☐			19.45		P	24.7
4	☐			11.11		P	114.6
5	☐			25.00		P	66.7
6	☐			33.33		P	50.0
7	☐			55.56		P	37.8
8	☐			161.12		P	10.8
9	☐			61.11		P	20.8

156 Dy [He] No available calibration points

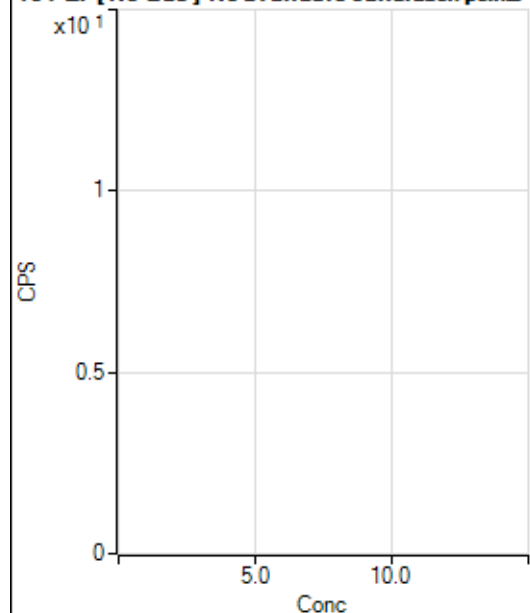
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			2.22		P	173.2
2	☐						
3	☐			1.11		P	173.2
4	☐			2.22		P	173.2
5	☐			2.22		P	173.2
6	☐			3.33		P	100.1
7	☐			3.33		P	0.0
8	☐			22.22		P	37.8
9	☐			14.44		P	35.3

160 Gd [No Gas] Noavailable calibration poin...

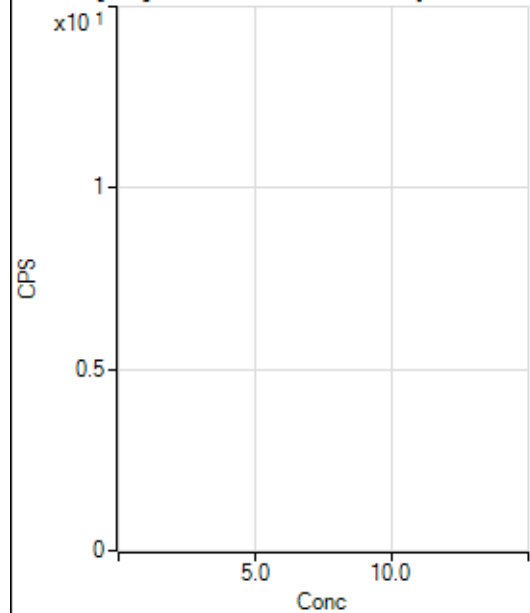
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			38.89		P	81.1
2	☐						
3	☐			66.67		P	50.0
4	☐			41.67		P	40.0
5	☐			66.67		P	25.0
6	☐			75.00		P	29.4
7	☐			94.45		P	35.7
8	☐			163.90		P	33.9
9	☐			66.67		P	37.5

160 Gd [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			3.33		P	173.2
2	☐						
3	☐			6.67		P	50.0
4	☐			6.67		P	100.0
5	☐			12.22		P	15.7
6	☐			2.22		P	86.6
7	☐			10.00		P	33.3
8	☐			35.55		P	44.3
9	☐			11.11		P	96.4

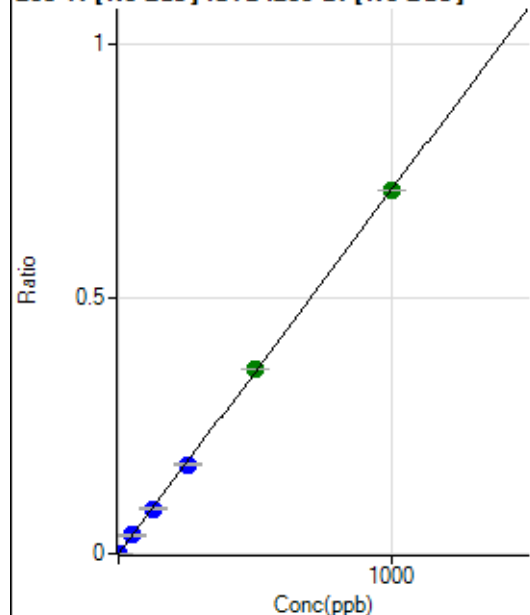
164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			41.67		P	34.6
2	☐						
3	☐			66.67		P	0.0
4	☐			55.56		P	56.8
5	☐			38.89		P	86.6
6	☐			38.89		P	53.9
7	☐			33.34		P	66.1
8	☐			91.67		P	15.7
9	☐			50.00		P	44.1

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			6.66		P	86.6
2	☐						
3	☐			6.67		P	0.0
4	☐			10.00		P	66.7
5	☐			6.67		P	50.0
6	☐			14.45		P	26.7
7	☐			7.78		P	65.5
8	☐			30.00		P	11.1
9	☐			8.89		P	57.3

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	108.34	0.0000	P	14.1
2	☐	0.100					
3	☐	1.000	0.905	4798.35	0.0007	P	3.7
4	☐	50.000	50.556	256335.67	0.0361	P	3.9
5	☐	125.000	123.684	648105.46	0.0882	P	0.8
6	☐	250.000	245.411	1307056.75	0.1749	P	0.8
7	☐	500.000	508.217	2742717.75	0.3623	A	0.6
8	☐	1000.000	997.176	5363586.84	0.7108	A	0.1
9	☐			3222.77	0.0004	P	2.2

$$y = 7.1281\text{E-}004 * x + 1.4774\text{E-}005$$

$$R = 0.9999$$

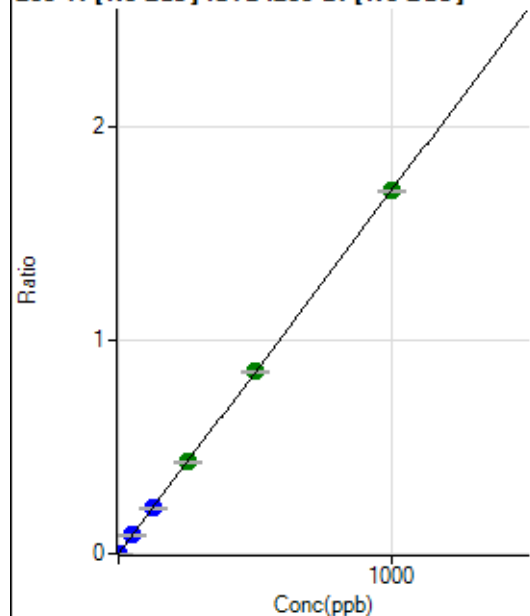
$$DL = 0.008789$$

$$BEC = 0.02073$$

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	244.46	0.0000	P	17.0
2	☐	0.100					
3	☐	1.000	0.957	12053.49	0.0017	P	3.4
4	☐	50.000	50.915	614670.28	0.0865	P	4.5
5	☐	125.000	124.751	1556729.77	0.2118	P	0.9
6	☐	250.000	251.698	3192424.70	0.4273	A	0.6
7	☐	500.000	501.090	6440065.94	0.8507	A	0.4
8	☐	1000.000	999.016	12796782.75	1.6959	A	0.2
9	☐			7805.60	0.0010	P	7.5

$$y = 0.0017 * x + 3.3307\text{E-}005$$

$$R = 1.0000$$

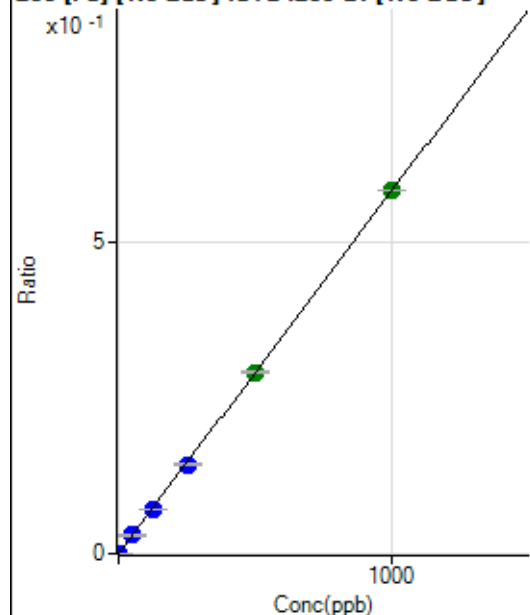
$$DL = 0.009992$$

$$BEC = 0.01962$$

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	540.77	0.0001	P	6.6
2	☐	0.100					
3	☐	1.000	0.861	4167.47	0.0006	P	3.6
4	☐	50.000	50.889	210444.05	0.0296	P	4.6
5	☐	125.000	123.396	526843.09	0.0717	P	0.6
6	☐	250.000	246.033	1067189.09	0.1428	P	0.6
7	☐	500.000	500.557	2199480.07	0.2905	A	1.1
8	☐	1000.000	1000.869	4382991.18	0.5809	A	0.2
9	☐			8777.36	0.0012	P	2.6

$$y = 5.8028\text{E-}004 * x + 7.3897\text{E-}005$$

$$R = 1.0000$$

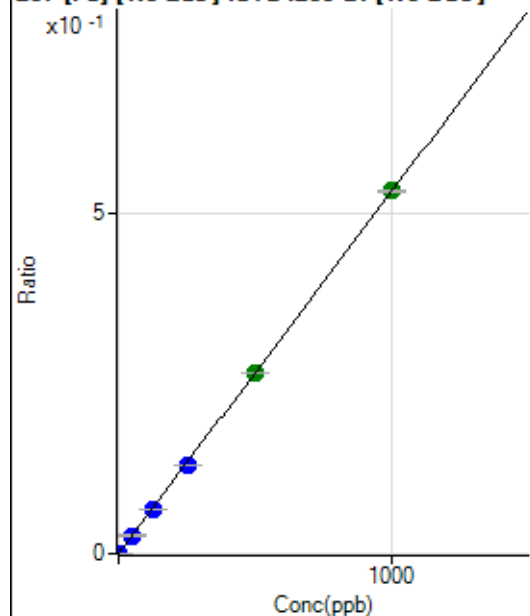
$$DL = 0.0253$$

$$BEC = 0.1273$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	424.10	0.0001	P	8.2
2	☐	0.100					
3	☐	1.000	0.847	3704.37	0.0005	P	2.8
4	☐	50.000	49.953	189625.32	0.0267	P	4.0
5	☐	125.000	122.303	479310.20	0.0652	P	1.5
6	☐	250.000	243.154	968246.67	0.1296	P	0.0
7	☐	500.000	499.709	2015900.77	0.2663	A	0.7
8	☐	1000.000	1002.196	4029197.92	0.5340	A	0.5
9	☐			7328.28	0.0010	P	4.5

$$y = 5.3274\text{E-}004 * x + 5.7939\text{E-}005$$

$$R = 1.0000$$

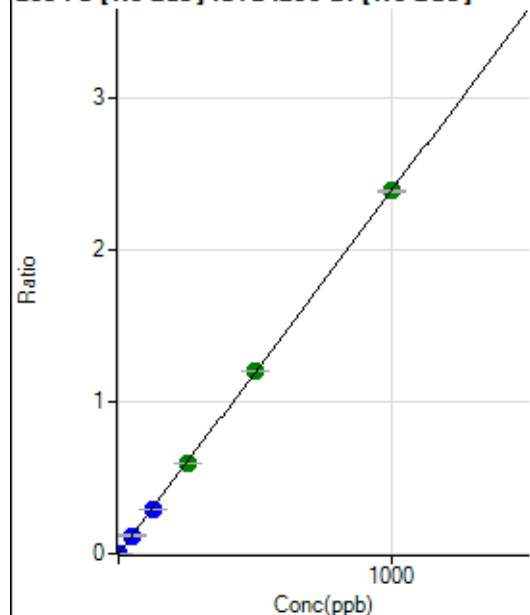
$$DL = 0.02668$$

$$BEC = 0.1088$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	2048.28	0.0003	P	5.2
2	☐	0.100					
3	☐	1.000	0.840	16597.33	0.0023	P	0.7
4	☐	50.000	50.216	853240.70	0.1200	P	4.8
5	☐	125.000	122.468	2148713.27	0.2923	P	0.8
6	☐	250.000	248.700	4433266.52	0.5934	A	0.2
7	☐	500.000	502.031	9066115.37	1.1975	A	0.4
8	☐	1000.000	999.615	17990039.20	2.3841	A	0.3
9	☐			34046.51	0.0045	P	2.7

$$y = 0.0024 * x + 2.7985E-004$$

$$R = 1.0000$$

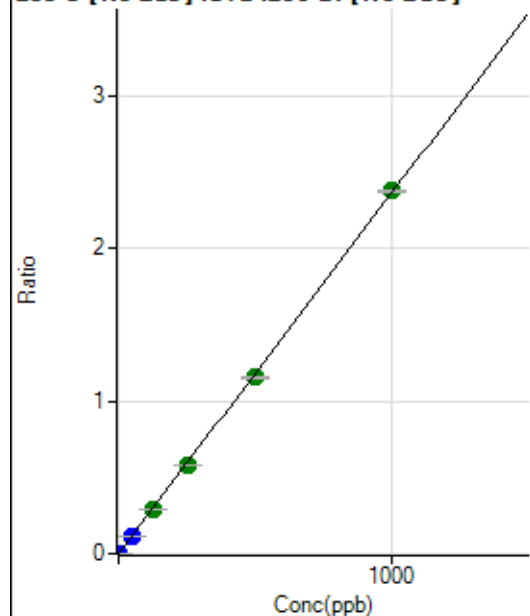
$$DL = 0.01818$$

$$BEC = 0.1173$$

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	152.79	0.0000	P	29.0
2	☐	0.100					
3	☐	1.000	0.881	15260.07	0.0021	P	3.2
4	☐	50.000	48.924	820789.14	0.1155	P	4.8
5	☐	125.000	122.050	2116976.33	0.2880	A	0.8
6	☐	250.000	245.240	4323802.23	0.5787	A	0.2
7	☐	500.000	489.680	8748078.84	1.1555	A	0.9
8	☐	1000.000	1006.772	17926397.10	2.3757	A	0.4
9	☐			2141.97	0.0003	P	5.9

$$y = 0.0024 * x + 2.0937E-005$$

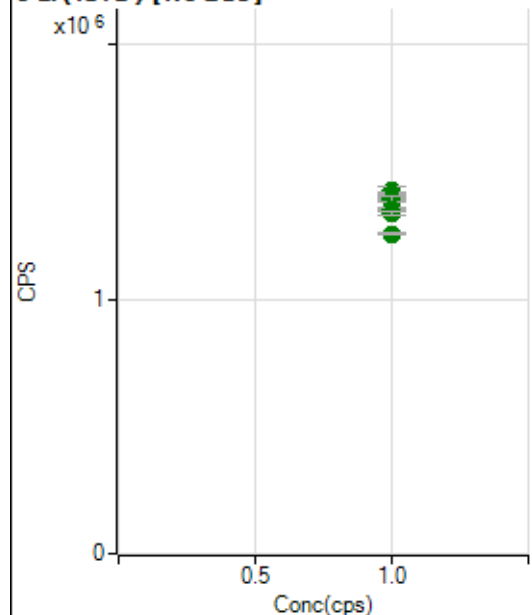
$$R = 0.9999$$

$$DL = 0.007723$$

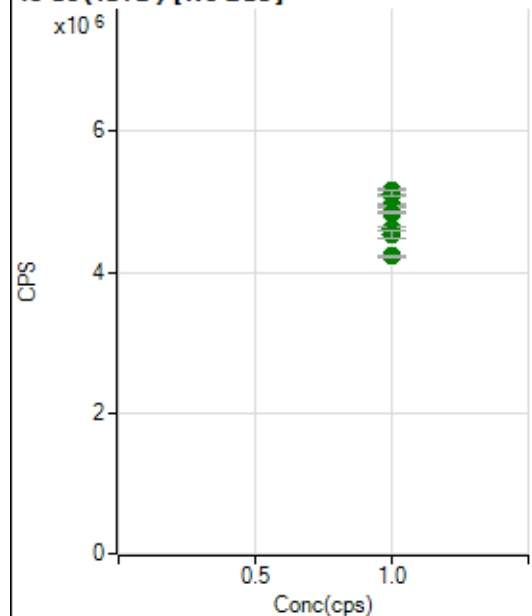
$$BEC = 0.008872$$

Weight: <None>

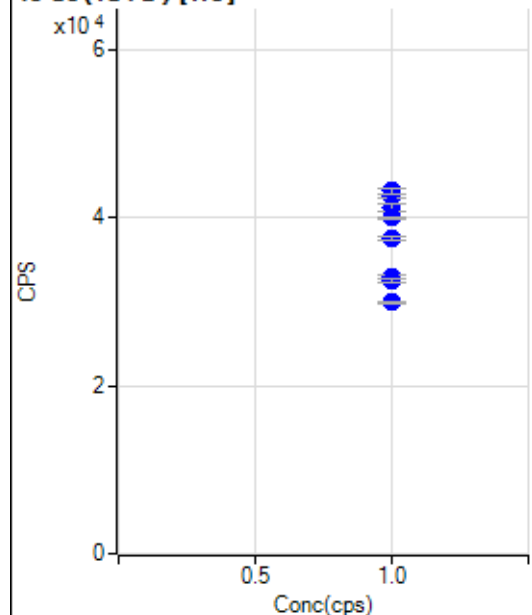
Min Conc: 0

6 Li (ISTD) [No Gas]

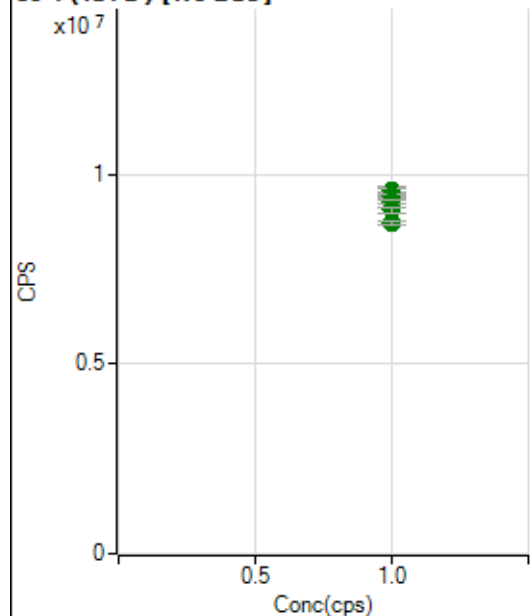
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1425797.69		A	2.4
2	☐	1.000					
3	☐	1.000		1410769.68		A	1.3
4	☐	1.000		1380941.25		A	4.5
5	☐	1.000		1400142.69		A	1.5
6	☐	1.000		1390890.73		A	1.6
7	☐	1.000		1354231.46		A	1.0
8	☐	1.000		1256746.21		A	0.5
9	☐	1.000		1336214.36		A	1.0

45 Sc (ISTD) [No Gas]

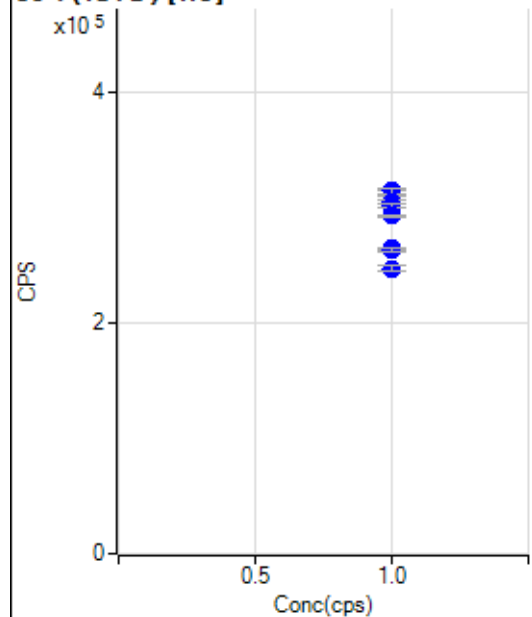
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5152370.82		A	1.9
2	☐	1.000					
3	☐	1.000		5120286.96		A	1.2
4	☐	1.000		4910796.90		A	2.9
5	☐	1.000		4932843.86		A	0.2
6	☐	1.000		4842293.25		A	0.5
7	☐	1.000		4616636.08		A	0.8
8	☐	1.000		4222727.35		A	1.0
9	☐	1.000		4536628.70		A	2.0

45 Sc (ISTD) [He]

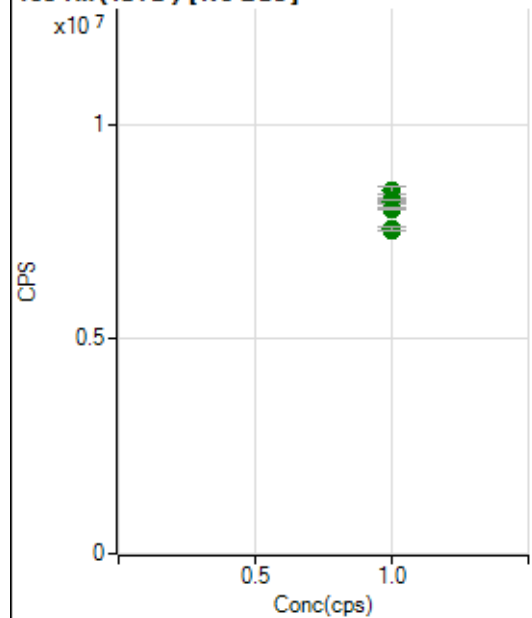
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		42604.77		P	1.0
2	☐	1.000					
3	☐	1.000		43175.40		P	1.6
4	☐	1.000		41199.57		P	2.1
5	☐	1.000		39983.71		P	0.3
6	☐	1.000		37568.31		P	1.4
7	☐	1.000		32933.32		P	0.8
8	☐	1.000		29907.71		P	0.8
9	☐	1.000		32584.67		P	1.5

89 Y (ISTD) [No Gas]

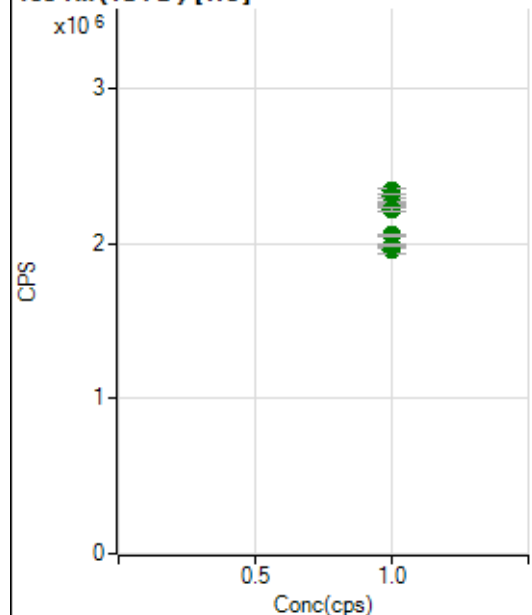
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9562049.51		A	2.0
2	☐	1.000					
3	☐	1.000		9532998.40		A	2.0
4	☐	1.000		9327142.22		A	3.9
5	☐	1.000		9409278.33		A	0.9
6	☐	1.000		9430620.55		A	0.8
7	☐	1.000		9263469.38		A	0.9
8	☐	1.000		8708129.66		A	1.2
9	☐	1.000		9056844.03		A	1.4

89 Y(ISTD) [He]

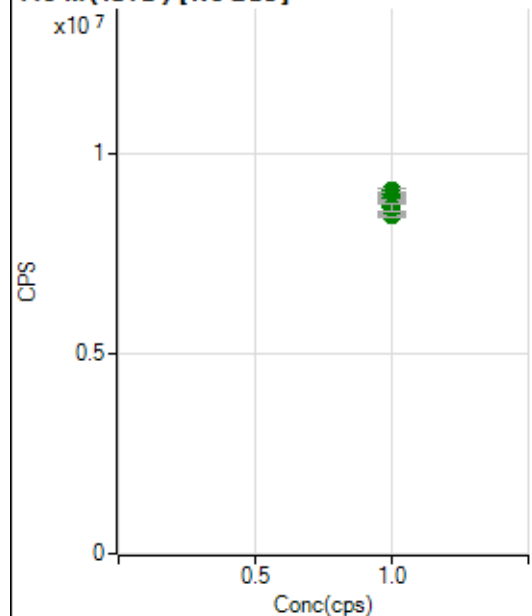
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		312488.80		P	1.8
2	☐	1.000					
3	☐	1.000		314668.11		P	1.3
4	☐	1.000		305369.46		P	1.2
5	☐	1.000		301167.76		P	1.1
6	☐	1.000		292713.24		P	0.8
7	☐	1.000		264497.36		P	0.9
8	☐	1.000		247151.14		P	2.0
9	☐	1.000		263711.10		P	1.1

103 Rh(ISTD) [No Gas]

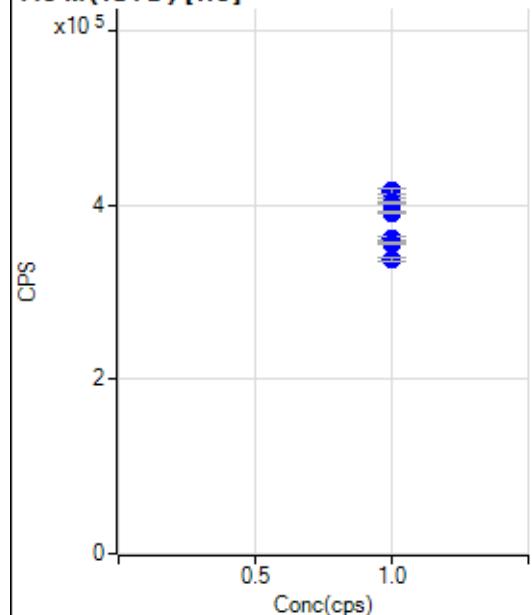
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		8447684.13		A	2.1
2	☐	1.000					
3	☐	1.000		8453554.88		A	2.0
4	☐	1.000		8154433.78		A	3.7
5	☐	1.000		8229326.83		A	0.8
6	☐	1.000		8205566.24		A	0.8
7	☐	1.000		8033509.55		A	0.5
8	☐	1.000		7523413.97		A	0.1
9	☐	1.000		7572380.29		A	1.0

103 Rh (ISTD) [He]

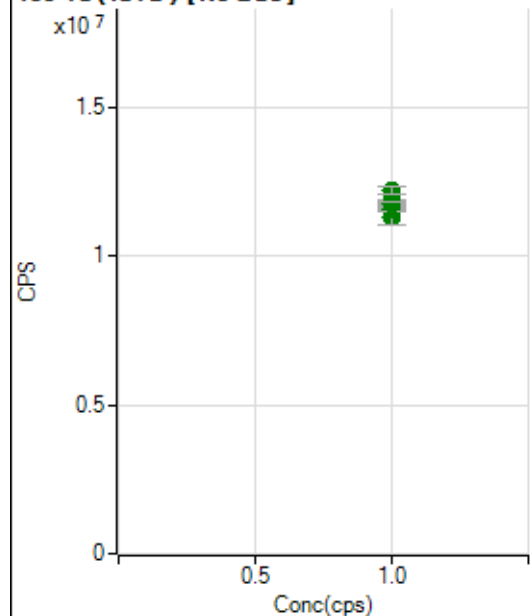
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2340109.97		A	1.3
2	☐	1.000					
3	☐	1.000		2303890.64		A	1.3
4	☐	1.000		2256451.73		A	0.6
5	☐	1.000		2261932.41		A	0.6
6	☐	1.000		2218545.87		A	0.7
7	☐	1.000		2053464.49		A	1.1
8	☐	1.000		1955915.53		A	1.6
9	☐	1.000		1987718.60		A	0.8

115 In (ISTD) [No Gas]

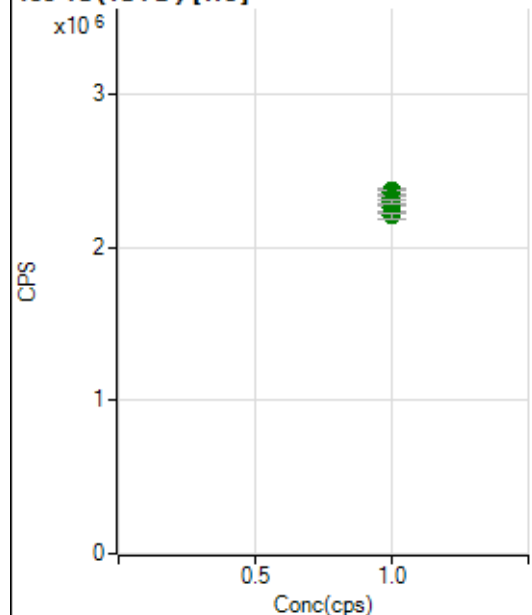
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9067634.61		A	1.9
2	☐	1.000					
3	☐	1.000		8973506.61		A	1.6
4	☐	1.000		8712450.40		A	4.8
5	☐	1.000		8871116.41		A	1.5
6	☐	1.000		8881323.52		A	0.9
7	☐	1.000		8838220.51		A	0.6
8	☐	1.000		8438731.34		A	0.5
9	☐	1.000		8643925.25		A	2.3

115 In (ISTD) [He]

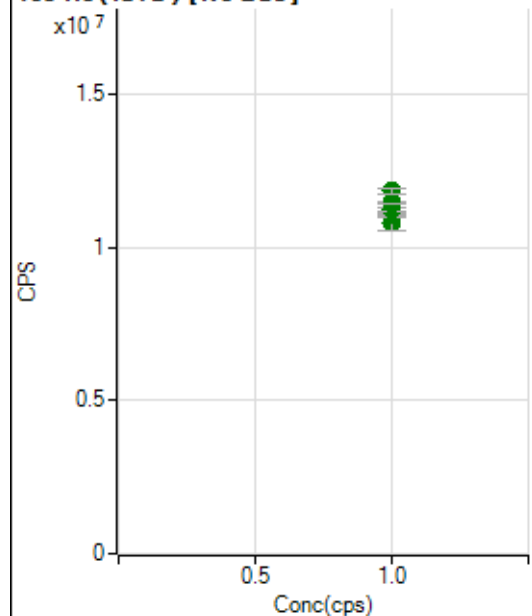
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		415753.05		P	1.5
2	☐	1.000					
3	☐	1.000		416545.11		P	1.8
4	☐	1.000		404985.80		P	1.5
5	☐	1.000		402529.85		P	0.8
6	☐	1.000		391728.39		P	0.7
7	☐	1.000		362400.28		P	1.5
8	☐	1.000		337289.88		P	1.2
9	☐	1.000		356544.86		P	1.1

159 Tb (ISTD) [No Gas]

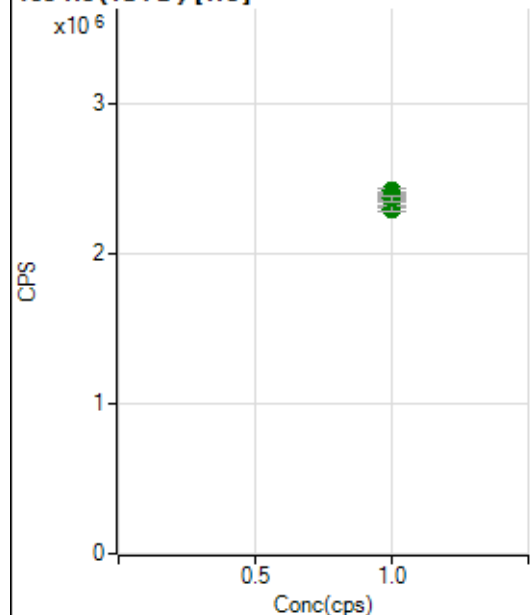
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		11644988.58		A	2.4
2	☐	1.000					
3	☐	1.000		11568633.30		A	1.5
4	☐	1.000		11285448.72		A	4.5
5	☐	1.000		11561984.27		A	1.0
6	☐	1.000		11739373.44		A	1.1
7	☐	1.000		11877373.44		A	0.6
8	☐	1.000		11825308.16		A	0.4
9	☐	1.000		12187856.90		A	2.0

159 Tb (ISTD) [He]

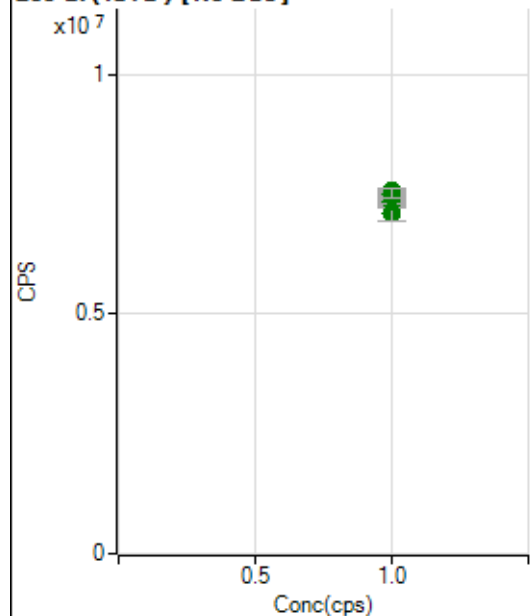
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2352204.15		A	1.5
2	☐	1.000					
3	☐	1.000		2368484.65		A	1.5
4	☐	1.000		2306756.11		A	2.4
5	☐	1.000		2358373.02		A	0.9
6	☐	1.000		2320196.89		A	0.8
7	☐	1.000		2253951.02		A	1.2
8	☐	1.000		2205075.64		A	1.4
9	☐	1.000		2300278.04		A	1.1

165 Ho (ISTD) [No Gas]

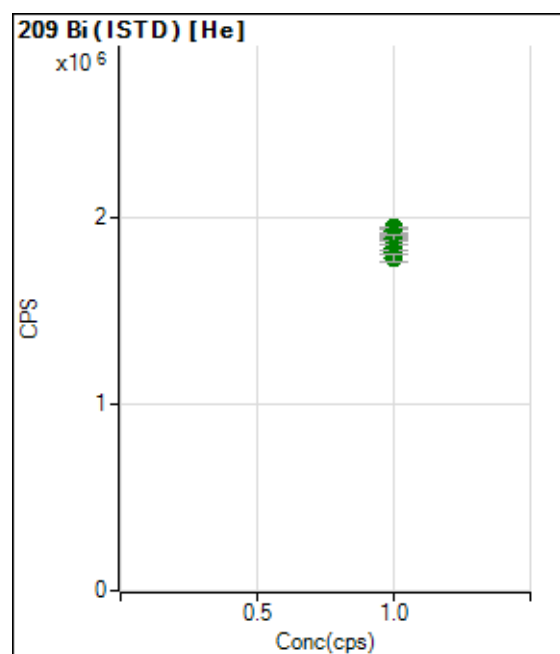
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		11155239.31		A	2.2
2	☐	1.000					
3	☐	1.000		11083051.98		A	1.9
4	☐	1.000		10818702.93		A	4.8
5	☐	1.000		11016905.46		A	0.6
6	☐	1.000		11225145.91		A	1.0
7	☐	1.000		11454835.15		A	0.8
8	☐	1.000		11418637.23		A	0.4
9	☐	1.000		11837373.18		A	1.8

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2419487.29		A	1.8
2	☐	1.000					
3	☐	1.000		2413164.64		A	1.7
4	☐	1.000		2374584.81		A	1.5
5	☐	1.000		2394633.44		A	1.4
6	☐	1.000		2385356.93		A	0.6
7	☐	1.000		2312837.55		A	0.9
8	☐	1.000		2298806.20		A	1.5
9	☐	1.000		2370474.09		A	1.8

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7324247.88		A	2.0
2	☐	1.000					
3	☐	1.000		7270742.39		A	1.6
4	☐	1.000		7118662.05		A	4.5
5	☐	1.000		7350233.36		A	0.7
6	☐	1.000		7471281.69		A	0.5
7	☐	1.000		7570906.97		A	0.9
8	☐	1.000		7545700.16		A	0.4
9	☐	1.000		7515162.39		A	2.4



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1944469.89		A	0.6
2	☐	1.000					
3	☐	1.000		1929364.35		A	1.7
4	☐	1.000		1882974.34		A	0.8
5	☐	1.000		1907076.19		A	0.9
6	☐	1.000		1890904.85		A	1.3
7	☐	1.000		1839377.37		A	1.4
8	☐	1.000		1811493.58		A	1.4
9	☐	1.000		1787735.70		A	2.3

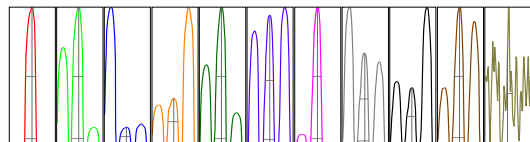
US EPA Tune Check Sample Report

Batch Folder D:\P8032818MS.b
Report Comment
Instrument Name G8403A JP17141814

Mass	Count (Mean)	RSD % (Actual)	RSD % (Required)	RSD % (Flag)
9	5696	1.16	5.00	
24	45979	1.04	5.00	
25	6190	1.02	5.00	
26	7120	1.31	5.00	
59	68205	1.36	5.00	
113	9720	1.02	5.00	
115	127304	1.31	5.00	
206	28015	1.03	5.00	
207	25710	1.03	5.00	
208	61078	1.18	5.00	
220	1	25.08		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	5705	5613	5710	5792	5661
24	45893	45259	46154	46575	46015
25	6185	6111	6211	6282	6160
26	7093	6994	7158	7249	7107
59	68472	66977	69023	69040	67514
113	9812	9586	9772	9786	9645
115	128962	127285	128859	126381	125034
206	27817	27638	28086	28369	28165
207	25724	25312	25746	26055	25714
208	61216	59925	61147	61933	61169
220	1	1	1	2	1

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width- X% (Flag)
9	9090	9.00	8.9 - 9.1		0.787	0.900	
24	73849	23.95	23.9 - 24.1		0.786	0.900	
25	9897	24.95	24.9 - 25.1		0.786	0.900	
26	11524	25.95	25.9 - 26.1		0.784	0.900	
59	114521	58.95	58.9 - 59.1		0.776	0.900	
113	17955	113.00	112.9 - 113.1		0.733	0.900	
115	231238	115.00	114.9 - 115.1		0.735	0.900	
206	51285	206.00	205.9 - 206.1		0.767	0.900	
207	46565	206.95	206.9 - 207.1		0.774	0.900	
208	110620	207.95	207.9 - 208.1		0.769	0.900	
220	2	220.00	-				

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

Tune Parameters

Plasma Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Plasma Mode	HMI		Aerosol Dilution	HMI-8				

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0 V		Omega Lens	9.5 V		Deflect	14.2 V	
Extract 2	-250.0 V		Cell Entrance	-30 V		Plate Bias	-35 V	
Omega Bias	-100 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	200 V				

[He]

Mass	Count (Mean)	RSD % (Actual)	RSD % (Required)
59	8928	0.95	
89	2858	1.01	
205	12752	0.65	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	9063	8941	8922	8968	8944
89	2908	2859	2842	2836	2846
205	12875	12794	12664	12706	12721

Integration Time [sec] = 0.1

Tune Parameters

Plasma Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Plasma Mode	HMI		Aerosol Dilution	HMI-8				

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0 V		Omega Lens	9.5 V		Deflect	2.0 V	
Extract 2	-250.0 V		Cell Entrance	-40 V		Plate Bias	-60 V	
Omega Bias	-100 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	5.0 mL/min		OctP RF	200 V				