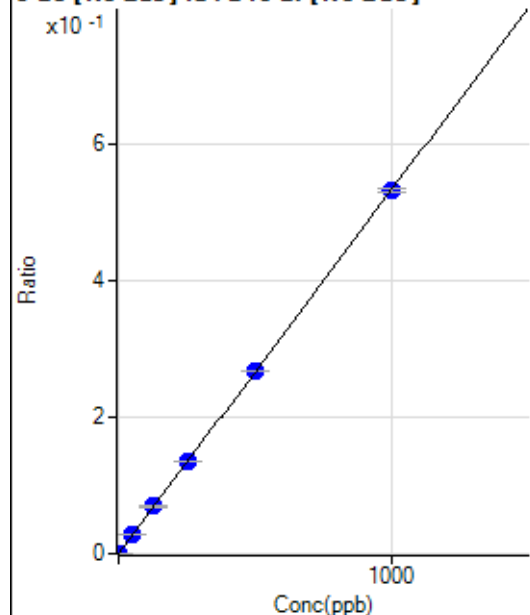


Batch Folder: D:\P80710218MS.b\
Analysis File: P80710218MS.batch.bin
DA Date-Time: 2018-07-12 23:51:39
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2018-07-12 12:11:56
2			
3	005CALS.d	S02	2018-07-12 12:19:19
4	006CALS.d	S03	2018-07-12 12:23:01
5	007CALS.d	S04	2018-07-12 12:26:43
6	008CALS.d	S05	2018-07-12 12:30:19
7	009CALS.d	S06	2018-07-12 12:33:49
8	010CALS.d	S07	2018-07-12 12:37:16
9	011CALS.d	S08	2018-07-12 12:40:39

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	77.78	0.0000	P	8.3
2	☐	0.100					
3	☐	1.000	0.958	1031.55	0.0006	P	6.0
4	☐	50.000	52.309	51754.63	0.0279	P	1.8
5	☐	125.000	129.513	128579.77	0.0691	P	0.8
6	☐	250.000	253.272	251324.03	0.1351	P	1.1
7	☐	500.000	502.191	496670.01	0.2678	P	0.3
8	☐	1000.000	997.407	924205.17	0.5318	P	1.1
9	☐			431.50	0.0002	P	13.5

$$y = 5.3310E-004 * x + 4.3444E-005$$

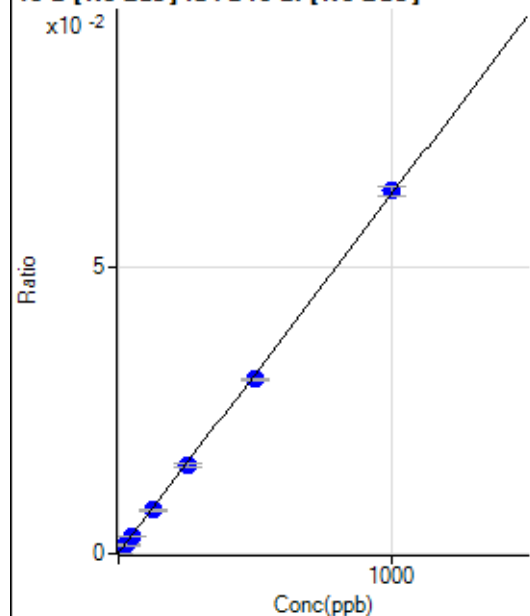
$$R = 1.0000$$

$$DL = 0.0202$$

$$BEC = 0.08149$$

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	147.23	0.0001	P	31.6
2	☐	2.500					
3	☐	25.000	23.499	2894.86	0.0016	P	9.2
4	☐	50.000	48.514	5790.30	0.0031	P	0.5
5	☐	125.000	121.114	14285.46	0.0077	P	3.1
6	☐	250.000	244.698	28701.70	0.0154	P	3.1
7	☐	500.000	484.243	56473.18	0.0304	P	0.8
8	☐	1000.000	1009.801	110184.58	0.0634	P	3.0
9	☐			5292.86	0.0030	P	12.9

$$y = 6.2705E-005 * x + 8.1935E-005$$

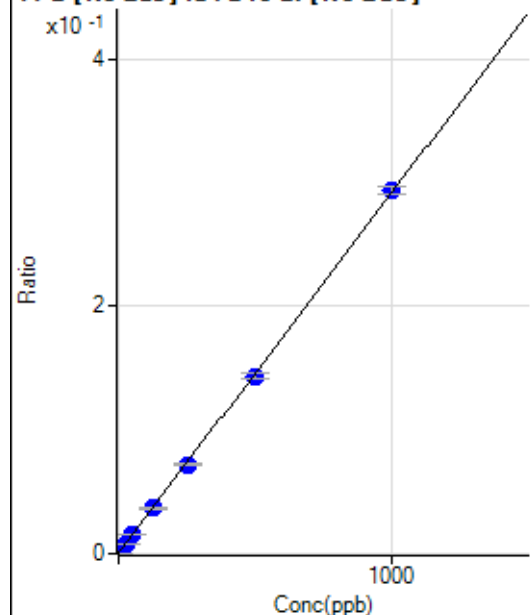
$$R = 0.9998$$

$$DL = 1.239$$

$$BEC = 1.307$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	594.49	0.0003	P	1.7
2	☐	2.500					
3	☐	25.000	23.536	13392.89	0.0072	P	3.7
4	☐	50.000	50.492	27917.06	0.0151	P	2.6
5	☐	125.000	124.274	68064.74	0.0366	P	3.1
6	☐	250.000	246.428	134345.29	0.0722	P	3.2
7	☐	500.000	491.168	266314.43	0.1436	P	2.7
8	☐	1000.000	1005.412	510212.73	0.2936	P	2.1
9	☐			25161.79	0.0142	P	10.7

$$y = 2.9166E-004 * x + 3.3189E-004$$

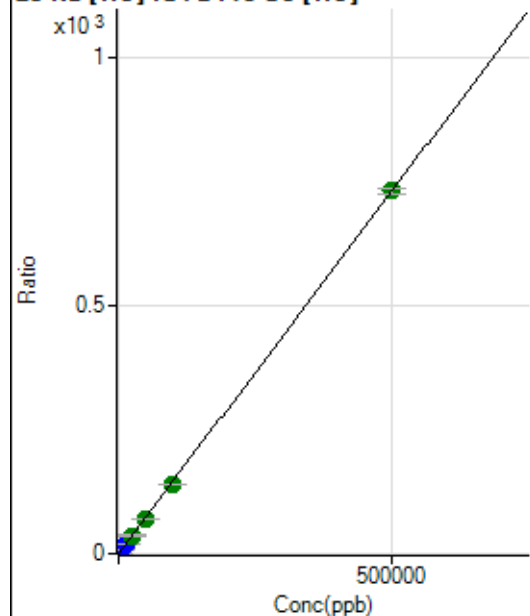
$$R = 0.9999$$

$$DL = 0.05756$$

$$BEC = 1.138$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	3278.30	0.0730	P	3.4
2	☐	50.000					
3	☐	500.000	457.336	33782.71	0.7405	P	2.0
4	☐	5000.000	4908.377	322775.84	7.2375	P	1.6
5	☐	12500.000	11998.779	796365.33	17.5869	P	0.0
6	☐	25000.000	24792.813	1586565.11	36.2617	A	4.2
7	☐	50000.000	48435.920	3084972.14	70.7722	A	1.9
8	☐	100000.00	96318.953	5832944.66	140.6645	A	1.1
9	☐	500000.00	500916.46	34319795.91	731.2334	A	1.6

$$y = 0.0015 * x + 0.0730$$

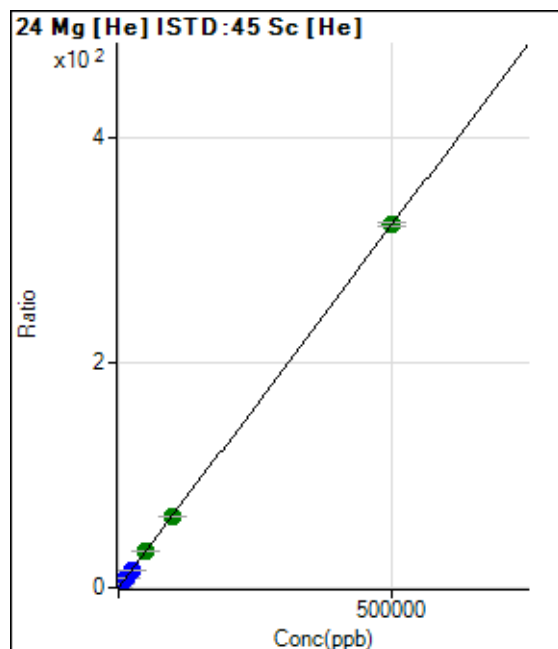
$$R = 1.0000$$

$$DL = 5.055$$

$$BEC = 49.99$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219.46	0.0049	P	6.7
2	☐	50.000					
3	☐	500.000	455.730	13615.47	0.2985	P	2.2
4	☐	5000.000	4980.792	143301.48	3.2134	P	2.3
5	☐	12500.000	12136.722	354239.25	7.8230	P	0.1
6	☐	25000.000	24518.364	691274.92	15.7989	P	4.0
7	☐	50000.000	49482.851	1389866.86	31.8804	A	0.9
8	☐	100000.00	98164.918	2622401.39	63.2400	A	1.0
9	☐	500000.00	500452.13	15131359.19	322.3823	A	1.2

$$y = 6.4417\text{E-}004 * x + 0.0049$$

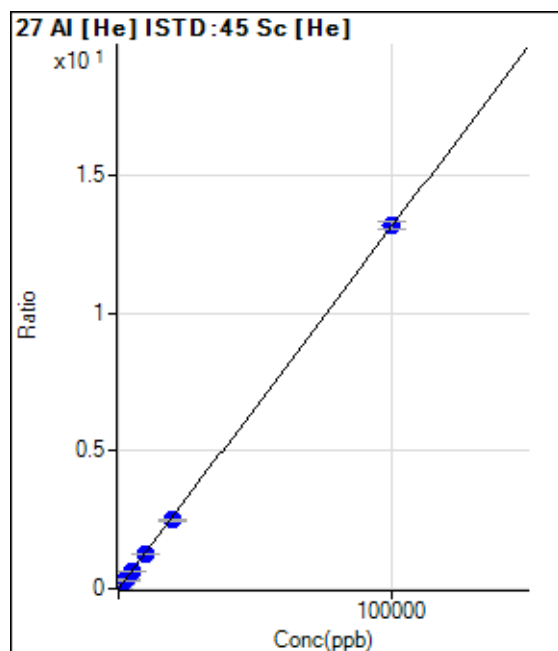
$$R = 1.0000$$

$$DL = 1.517$$

$$BEC = 7.584$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19.44	0.0004	P	138.2
2	☐	2.000					
3	☐	20.000	18.441	130.56	0.0029	P	2.1
4	☐	1000.000	960.823	5651.38	0.1267	P	3.0
5	☐	2500.000	2395.936	14279.94	0.3154	P	0.7
6	☐	5000.000	4701.282	27062.71	0.6184	P	3.0
7	☐	10000.000	9377.096	53755.87	1.2330	P	0.5
8	☐	20000.000	18897.054	103005.20	2.4843	P	2.1
9	☐	100000.00	100300.80	618760.21	13.1840	P	2.0

$$y = 1.3144\text{E-}004 * x + 4.3673\text{E-}004$$

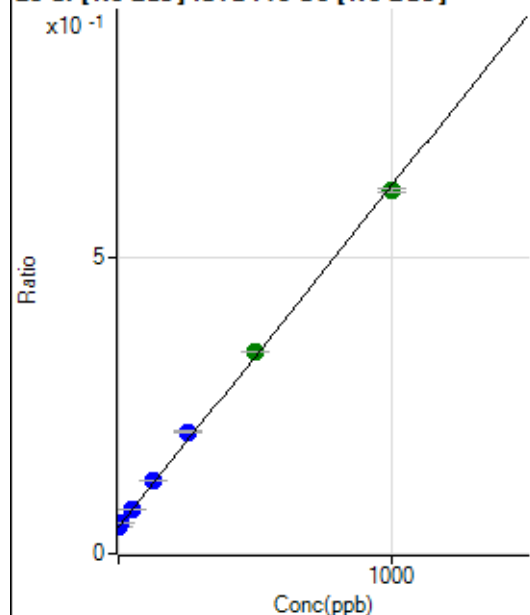
$$R = 0.9999$$

$$DL = 13.77$$

$$BEC = 3.323$$

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	226616.41	0.0450	P	1.6
2	☐	1.000					
3	☐	10.000	11.416	272885.57	0.0515	P	0.7
4	☐	50.000	52.272	396095.49	0.0750	P	1.5
5	☐	125.000	136.903	652728.37	0.1238	P	1.5
6	☐	250.000	277.533	1082298.35	0.2047	P	1.6
7	☐	500.000	512.776	1821447.96	0.3401	A	0.6
8	☐	1000.000	985.113	3082561.57	0.6120	A	1.2
9	☐			263218.11	0.0500	P	4.3

$$y = 5.7566\text{E-}004 * x + 0.0450$$

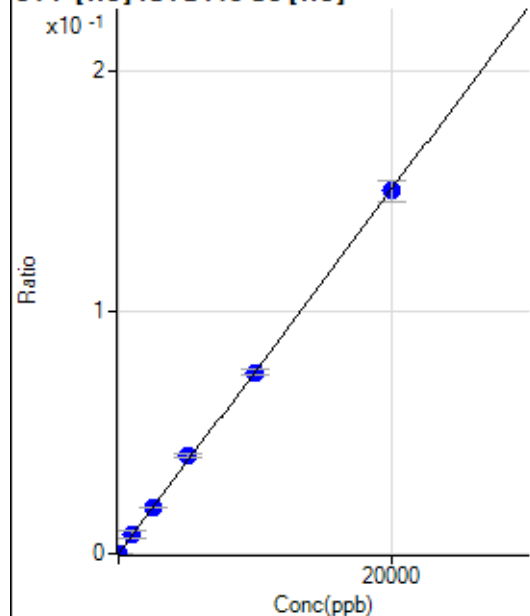
$$R = 0.9994$$

$$DL = 3.846$$

$$BEC = 78.09$$

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	8.241	5.55	0.0001	P	86.6
2	☐	0.000					
3	☐	0.000	-8.241	0.00	0.0000	P	
4	☐	1000.000	1051.508	355.57	0.0080	P	31.0
5	☐	2500.000	2532.611	866.74	0.0191	P	3.2
6	☐	5000.000	5370.116	1772.43	0.0405	P	5.0
7	☐	10000.000	9958.663	3272.75	0.0751	P	3.6
8	☐	20000.000	19921.488	6223.85	0.1501	P	6.0
9	☐			19.44	0.0004	P	49.0

$$y = 7.5329\text{E-}006 * x + 6.2077\text{E-}005$$

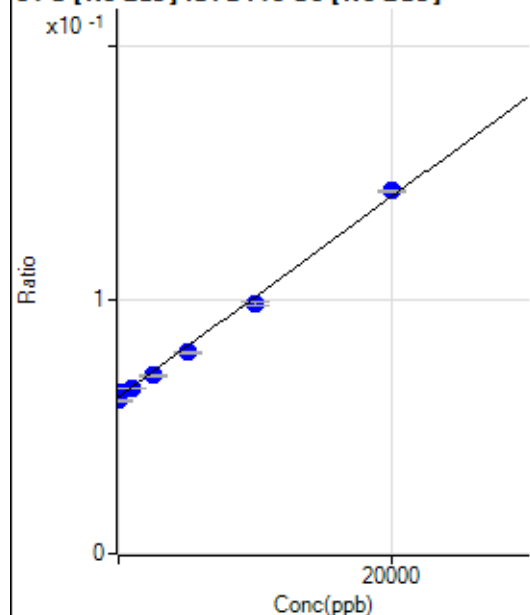
$$R = 0.9998$$

$$DL = 21.41$$

$$BEC = 8.241$$

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	369.378	319303.08	0.0633	P	1.3
2	☐	0.000					
3	☐	0.000	-369.378	319998.19	0.0604	P	0.7
4	☐	1000.000	814.423	343597.05	0.0651	P	0.7
5	☐	2500.000	2143.767	370990.33	0.0703	P	0.9
6	☐	5000.000	4469.288	420441.41	0.0795	P	0.9
7	☐	10000.000	9250.637	526889.40	0.0984	P	1.3
8	☐	20000.000	20561.167	720450.49	0.1430	P	0.8
9	☐			302258.28	0.0575	P	4.1

$$y = 3.9475\text{E-}006 * x + 0.0619$$

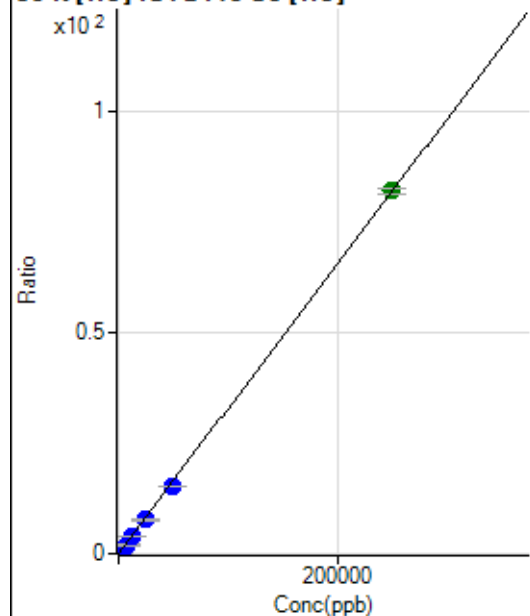
$$R = 0.9982$$

$$DL = 483.6$$

$$BEC = 1.568\text{E}+04$$

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	2069.70	0.0461	P	11.3
2	☐	50.000					
3	☐	500.000	448.047	8789.24	0.1927	P	4.6
4	☐	2500.000	2397.105	37041.43	0.8305	P	1.3
5	☐	6250.000	5845.929	88712.37	1.9591	P	0.2
6	☐	12500.000	11927.106	172803.48	3.9492	P	3.7
7	☐	25000.000	23342.739	334989.21	7.6848	P	1.8
8	☐	50000.000	46640.316	634807.59	15.3088	P	1.1
9	☐	250000.00	250877.54	3855375.52	82.1440	A	1.8

$$y = 3.2724\text{E-}004 * x + 0.0461$$

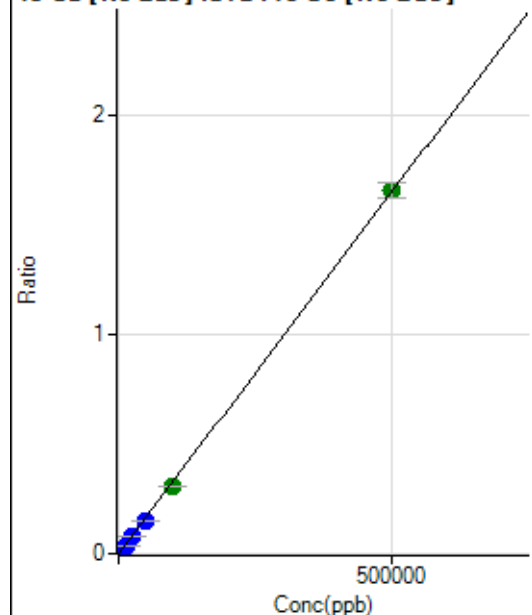
$$R = 0.9999$$

$$DL = 47.82$$

$$BEC = 140.8$$

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	377.81	0.0001	P	15.5
2	☐	50.000					
3	☐	500.000	432.439	7944.24	0.0015	P	3.3
4	☐	5000.000	4635.655	81025.42	0.0154	P	1.2
5	☐	12500.000	11560.508	201314.22	0.0382	P	0.6
6	☐	25000.000	23041.767	401855.83	0.0760	P	0.5
7	☐	50000.000	45357.809	800800.48	0.1495	P	0.6
8	☐	100000.00	92497.815	1535560.29	0.3049	A	0.9
9	☐	500000.00	502089.76	8703673.11	1.6546	A	4.2

$$y = 3.2953\text{E-}006 * x + 7.4811\text{E-}005$$

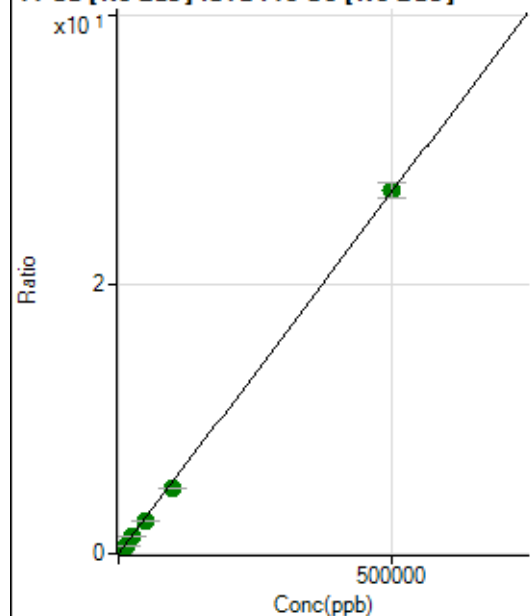
$$R = 0.9999$$

$$DL = 10.56$$

$$BEC = 22.7$$

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	13287.55	0.0026	P	2.7
2	☐	50.000					
3	☐	500.000	436.186	137972.14	0.0261	P	1.0
4	☐	5000.000	4686.387	1341859.62	0.2542	A	1.5
5	☐	12500.000	11656.634	3314326.33	0.6284	A	0.8
6	☐	25000.000	22890.233	6510974.71	1.2315	A	0.9
7	☐	50000.000	45183.757	13003138.31	2.4283	A	1.2
8	☐	100000.00	91111.197	24649011.49	4.8939	A	0.3
9	☐	500000.00	502389.15	141890550.3	26.9732	A	4.1

$$y = 5.3685\text{E-}005 * x + 0.0026$$

$$R = 0.9998$$

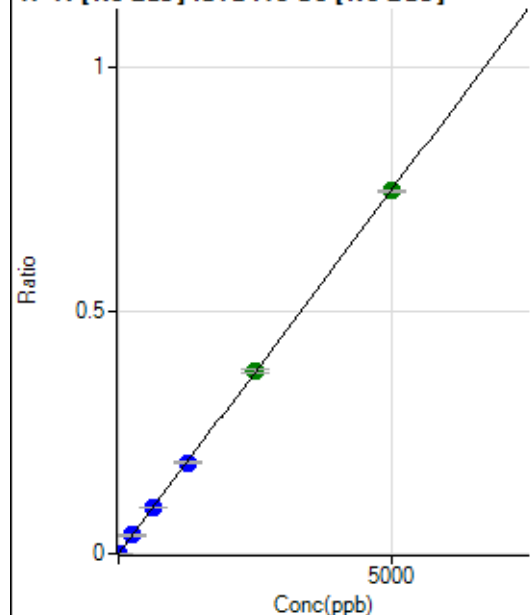
$$DL = 4.025$$

$$BEC = 49.09$$

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	122.23	0.0000	P	15.5
2	☐	0.500					
3	☐	5.000	5.227	4273.07	0.0008	P	2.9
4	☐	250.000	251.913	199186.00	0.0377	P	1.4
5	☐	625.000	629.876	497432.01	0.0943	P	1.5
6	☐	1250.000	1253.309	992138.41	0.1877	P	0.5
7	☐	2500.000	2515.728	2016778.52	0.3766	A	1.7
8	☐	5000.000	4990.603	3763138.89	0.7471	A	0.5
9	☐			2214.18	0.0004	P	6.2

$$y = 1.4971\text{E-}004 * x + 2.4236\text{E-}005$$

$$R = 1.0000$$

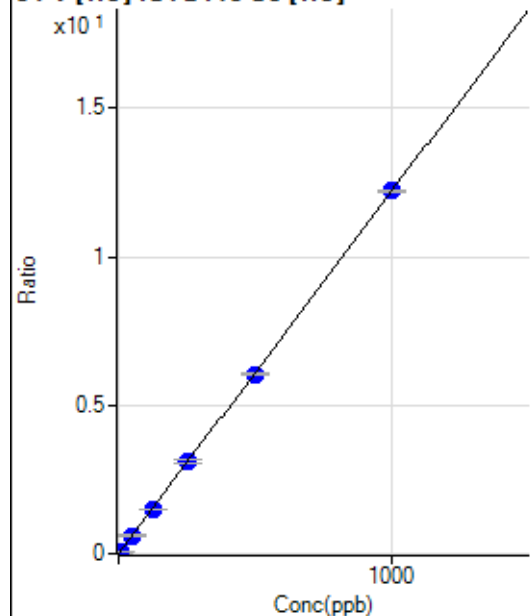
$$DL = 0.07538$$

$$BEC = 0.1619$$

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	8.89	0.0002	P	56.7
2	☐	0.500					
3	☐	5.000	4.701	2624.74	0.0576	P	6.8
4	☐	50.000	50.176	27315.72	0.6125	P	1.3
5	☐	125.000	123.111	68034.25	1.5025	P	0.9
6	☐	250.000	253.024	135098.11	3.0877	P	4.1
7	☐	500.000	495.934	263807.40	6.0518	P	1.7
8	☐	1000.000	1001.506	506787.39	12.2210	P	0.8
9	☐			195.56	0.0042	P	1.5

$$y = 0.0122 * x + 1.9698\text{E-}004$$

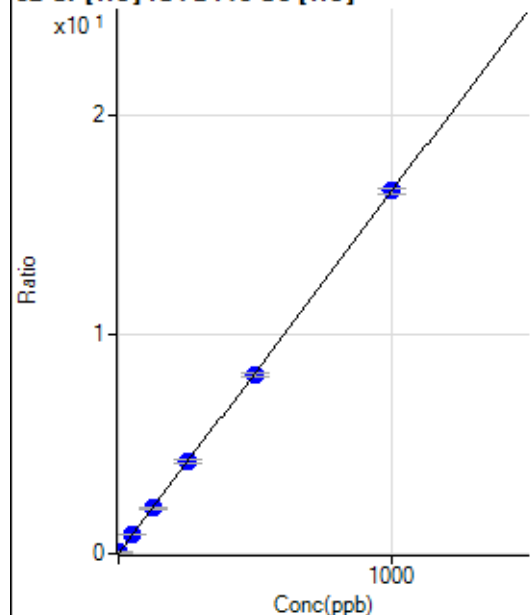
$$R = 1.0000$$

$$DL = 0.02744$$

$$BEC = 0.01614$$

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	540.02	0.0120	P	4.5
2	☐	0.200					
3	☐	2.000	1.965	2025.74	0.0444	P	8.2
4	☐	50.000	51.164	38147.59	0.8554	P	2.1
5	☐	125.000	124.167	93220.89	2.0587	P	0.8
6	☐	250.000	252.631	182732.13	4.1763	P	3.9
7	☐	500.000	495.648	356649.70	8.1821	P	2.1
8	☐	1000.000	1001.564	685075.21	16.5214	P	1.3
9	☐			30196.06	0.6434	P	2.2

$$y = 0.0165 * x + 0.0120$$

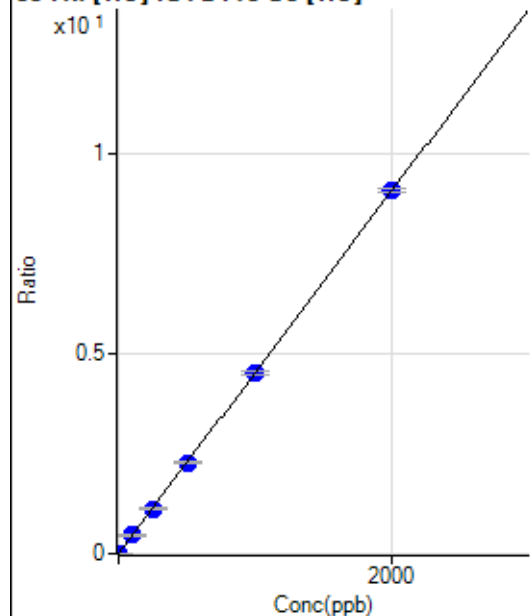
$$R = 1.0000$$

$$DL = 0.09872$$

$$BEC = 0.7288$$

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	75.56	0.0017	P	23.5
2	☐	0.100					
3	☐	1.000	1.019	286.67	0.0063	P	13.3
4	☐	100.000	101.690	20585.41	0.4616	P	2.5
5	☐	250.000	247.476	50759.87	1.1210	P	1.6
6	☐	500.000	503.644	99754.08	2.2795	P	3.4
7	☐	1000.000	995.452	196336.81	4.5039	P	1.6
8	☐	2000.000	2001.594	375470.17	9.0544	P	1.0
9	☐			2063.53	0.0440	P	0.2

$$y = 0.0045 * x + 0.0017$$

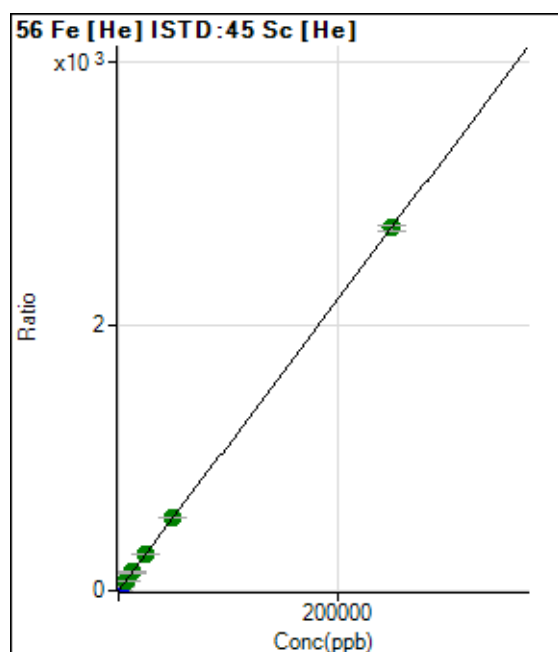
$$R = 1.0000$$

$$DL = 0.2615$$

$$BEC = 0.3713$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1677.94	0.0373	P	2.2
2	☐	5.000					
3	☐	50.000	48.305	25863.36	0.5669	P	2.3
4	☐	2500.000	2540.497	1243924.07	27.8908	P	1.0
5	☐	6250.000	6317.943	3138266.56	69.3059	A	0.4
6	☐	12500.000	12758.359	6122618.71	139.9173	A	3.5
7	☐	25000.000	24951.582	11927313.35	273.6013	A	1.4
8	☐	50000.000	50097.729	22777996.57	549.2984	A	1.0
9	☐	250000.00	249970.27	128629512.1	2,740.659	A	1.6

$$y = 0.0110 * x + 0.0373$$

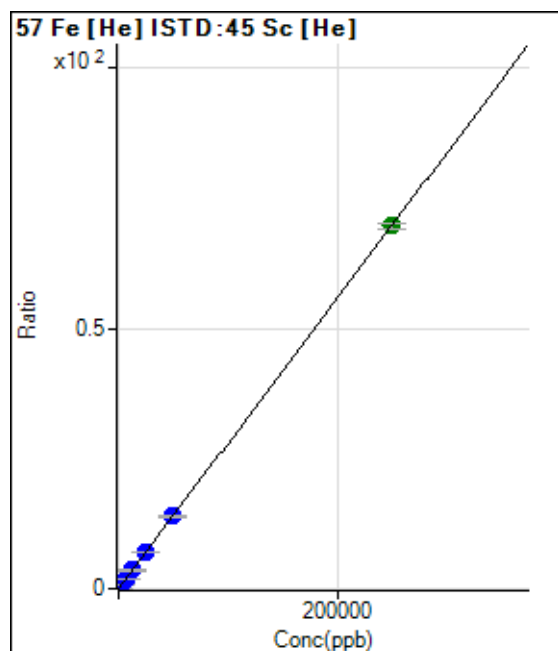
$$R = 1.0000$$

$$DL = 0.2263$$

$$BEC = 3.406$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.30	0.0010	P	29.8
2	☐	5.000					
3	☐	50.000	49.727	679.67	0.0149	P	8.6
4	☐	2500.000	2506.069	31185.38	0.6993	P	2.1
5	☐	6250.000	6137.536	77481.23	1.7111	P	0.9
6	☐	12500.000	12642.300	154168.78	3.5235	P	4.0
7	☐	25000.000	24853.293	301901.21	6.9258	P	1.9
8	☐	50000.000	49747.709	574809.18	13.8620	P	1.2
9	☐	250000.00	250060.76	3270086.45	69.6744	A	1.8

$$y = 2.7863E-004 * x + 0.0010$$

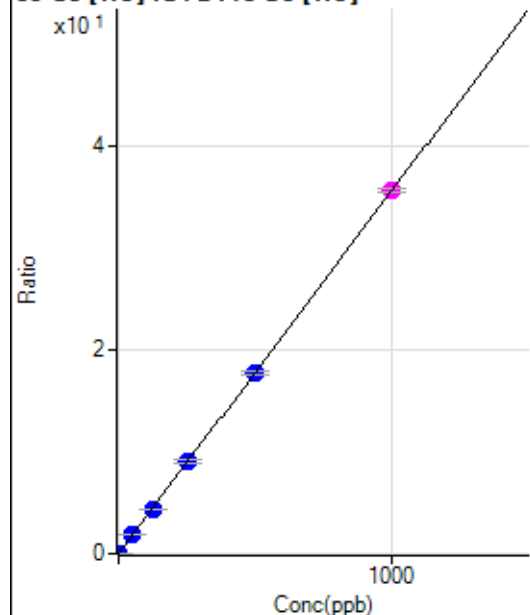
$$R = 1.0000$$

$$DL = 3.301$$

$$BEC = 3.693$$

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	88.89	0.0020	P	19.9
2	☐	0.100					
3	☐	1.000	0.914	1573.45	0.0345	P	2.7
4	☐	50.000	51.440	81621.66	1.8300	P	0.7
5	☐	125.000	124.214	199976.06	4.4163	P	0.5
6	☐	250.000	254.042	395101.56	9.0300	P	4.0
7	☐	500.000	496.963	769944.23	17.6628	P	1.7
8	☐	1000.000	1000.534	1474529.34	35.5585	M	1.2
9	☐			20241.65	0.4313	P	2.0

$$y = 0.0355 * x + 0.0020$$

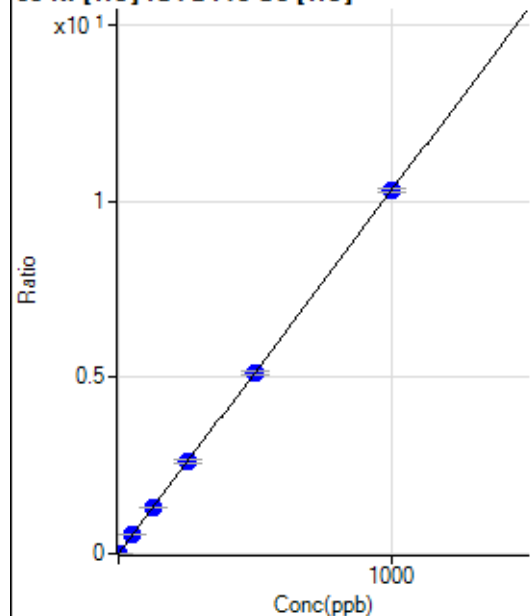
$$R = 1.0000$$

$$DL = 0.03333$$

$$BEC = 0.05574$$

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	123.34	0.0027	P	17.9
2	☐	0.100					
3	☐	1.000	0.983	587.80	0.0129	P	10.4
4	☐	50.000	52.185	24137.84	0.5412	P	0.7
5	☐	125.000	125.202	58619.69	1.2946	P	0.2
6	☐	250.000	255.545	115494.76	2.6394	P	3.6
7	☐	500.000	499.090	224587.33	5.1523	P	2.0
8	☐	1000.000	998.934	427510.86	10.3096	P	1.1
9	☐			15387.61	0.3278	P	0.6

$$y = 0.0103 * x + 0.0027$$

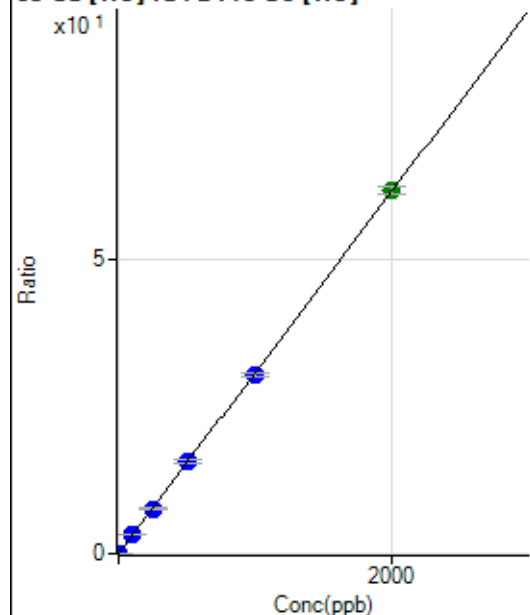
$$R = 1.0000$$

$$DL = 0.143$$

$$BEC = 0.2657$$

Weight: <None>

Min Conc: 0

⁶³Cu [He] ISTD:45 Sc [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	540.02	0.0120	P	9.9
2	☐	0.200					
3	☐	2.000	1.902	3209.32	0.0703	P	2.2
4	☐	100.000	101.836	139856.21	3.1358	P	1.1
5	☐	250.000	249.018	346430.08	7.6506	P	0.5
6	☐	500.000	505.352	678800.77	15.5137	P	3.9
7	☐	1000.000	986.391	1319511.98	30.2695	P	1.6
8	☐	2000.000	2005.498	2551245.85	61.5306	A	2.1
9	☐			5038.78	0.1074	P	1.8

$$y = 0.0307 * x + 0.0120$$

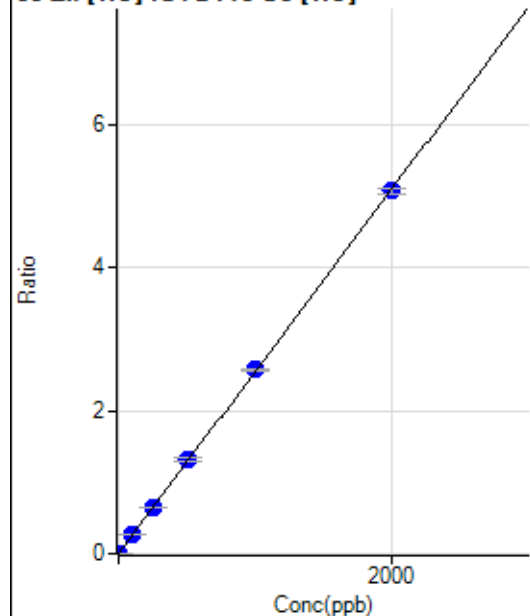
$$R = 1.0000$$

$$DL = 0.1158$$

$$BEC = 0.3916$$

Weight: <None>

Min Conc: 0

⁶⁶Zn [He] ISTD:45 Sc [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	71.11	0.0016	P	31.0
2	☐	0.200					
3	☐	2.000	2.284	337.79	0.0074	P	17.2
4	☐	100.000	103.729	11864.12	0.2661	P	4.2
5	☐	250.000	252.848	29264.41	0.6463	P	0.9
6	☐	500.000	513.382	57335.81	1.3106	P	4.6
7	☐	1000.000	1008.345	112146.45	2.5726	P	1.7
8	☐	2000.000	1991.939	210669.70	5.0805	P	1.4
9	☐			1855.71	0.0395	P	1.2

$$y = 0.0025 * x + 0.0016$$

$$R = 1.0000$$

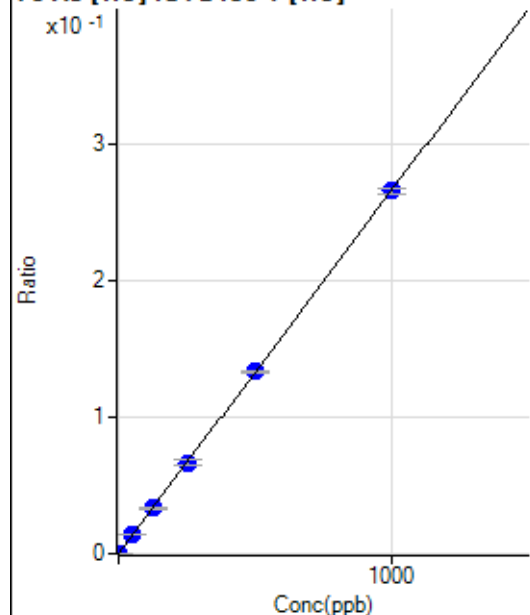
$$DL = 0.5767$$

$$BEC = 0.6203$$

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	5.56	0.0000	P	67.3
2	☐	0.100					
3	☐	1.000	0.834	71.60	0.0002	P	17.0
4	☐	50.000	51.005	4034.57	0.0136	P	2.6
5	☐	125.000	124.454	9914.12	0.0331	P	1.5
6	☐	250.000	250.982	19344.49	0.0667	P	5.5
7	☐	500.000	500.862	38696.03	0.1330	P	0.5
8	☐	1000.000	999.342	74203.93	0.2654	P	1.4
9	☐			129.63	0.0004	P	14.5

$$y = 2.6556E-004 * x + 1.8916E-005$$

$$R = 1.0000$$

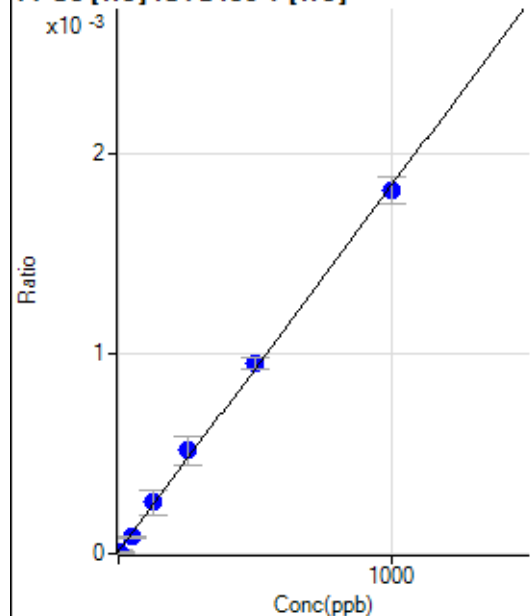
$$DL = 0.1438$$

$$BEC = 0.07123$$

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	3.33	0.0000	P	173.2
2	☐	0.500					
3	☐	5.000	-4.138	1.11	0.0000	P	173.2
4	☐	50.000	38.758	24.44	0.0001	P	21.8
5	☐	125.000	133.308	76.67	0.0003	P	46.6
6	☐	250.000	275.702	148.89	0.0005	P	28.1
7	☐	500.000	515.237	277.79	0.0010	P	6.6
8	☐	1000.000	985.525	507.80	0.0018	P	7.3
9	☐			1.11	0.0000	P	173.2

$$y = 1.8309E-006 * x + 1.1309E-005$$

$$R = 0.9992$$

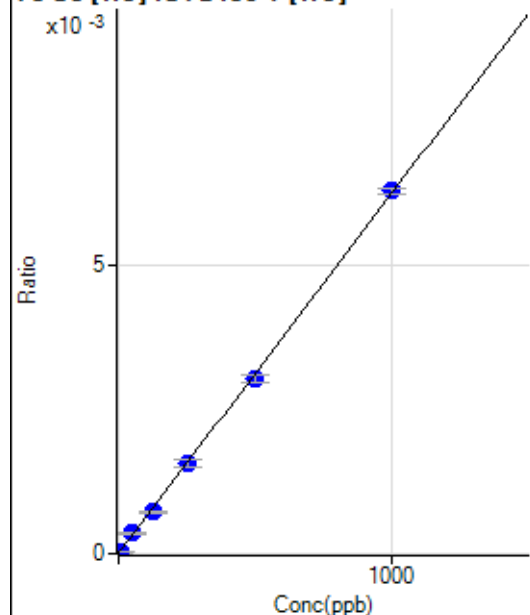
$$DL = 32.1$$

$$BEC = 6.177$$

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	1.85	0.0000	P	100.2
2	☐	0.500					
3	☐	5.000	4.981	11.11	0.0000	P	29.3
4	☐	50.000	55.553	104.94	0.0004	P	12.9
5	☐	125.000	114.816	216.67	0.0007	P	3.3
6	☐	250.000	250.372	454.95	0.0016	P	7.2
7	☐	500.000	486.693	885.22	0.0030	P	4.9
8	☐	1000.000	1007.556	1759.39	0.0063	P	1.6
9	☐			1.23	0.0000	P	173.2

$$y = 6.2395E-006 * x + 6.2620E-006$$

$$R = 0.9998$$

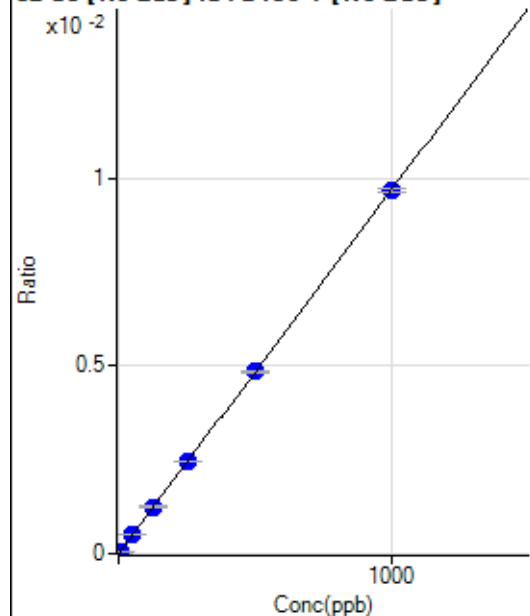
$$DL = 3.018$$

$$BEC = 1.004$$

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	-25.06	0.0000	P	-192.
2	☐	0.500					
3	☐	5.000	4.949	433.72	0.0000	P	4.3
4	☐	50.000	52.964	4879.92	0.0005	P	2.4
5	☐	125.000	128.654	11999.51	0.0012	P	2.1
6	☐	250.000	255.275	23933.71	0.0025	P	0.7
7	☐	500.000	500.990	47677.51	0.0049	P	1.1
8	☐	1000.000	997.582	90240.33	0.0097	P	1.2
9	☐			103.13	0.0000	P	20.9

$$y = 9.6951E-006 * x - 2.7501E-006$$

$$R = 1.0000$$

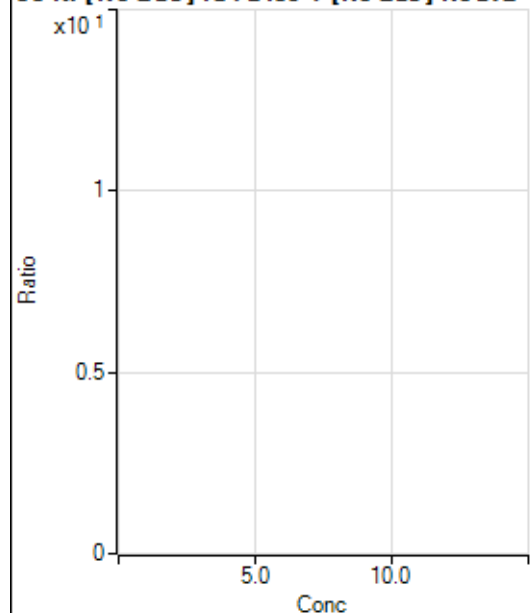
$$DL = 1.634$$

$$BEC = -0.2837$$

Weight: <None>

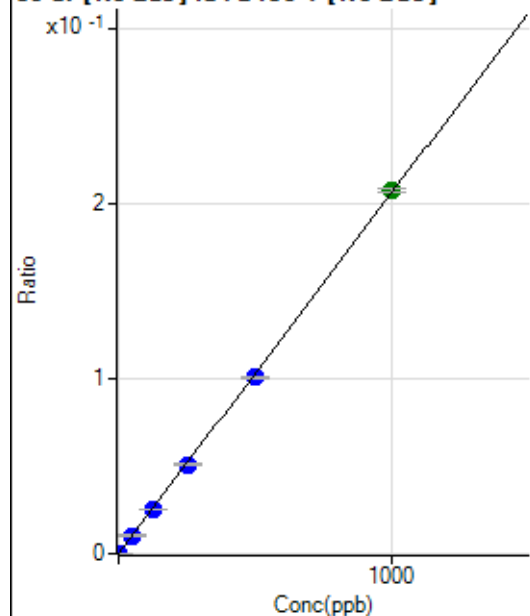
Min Conc: 0

83 Kr [No Gas] ISTD:89 Y [No Gas] No av_



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			318.90	0.0000	P	11.5
2	☐						
3	☐			314.45	0.0000	P	9.8
4	☐			295.57	0.0000	P	7.0
5	☐			297.78	0.0000	P	7.5
6	☐			253.34	0.0000	P	10.2
7	☐			291.12	0.0000	P	6.6
8	☐			305.57	0.0000	P	15.9
9	☐			280.01	0.0000	P	4.1

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	480.58	0.0001	P	10.9
2	☐	0.100					
3	☐	1.000	1.020	2508.70	0.0003	P	4.9
4	☐	50.000	50.135	99052.23	0.0104	P	1.5
5	☐	125.000	123.807	246120.83	0.0255	P	1.5
6	☐	250.000	245.901	490301.41	0.0506	P	1.7
7	☐	500.000	489.366	989469.52	0.1007	P	0.8
8	☐	1000.000	1006.484	1933301.65	0.2071	A	1.0
9	☐			9562.13	0.0010	P	3.1

$$y = 2.0576E-004 * x + 5.1675E-005$$

$$R = 0.9999$$

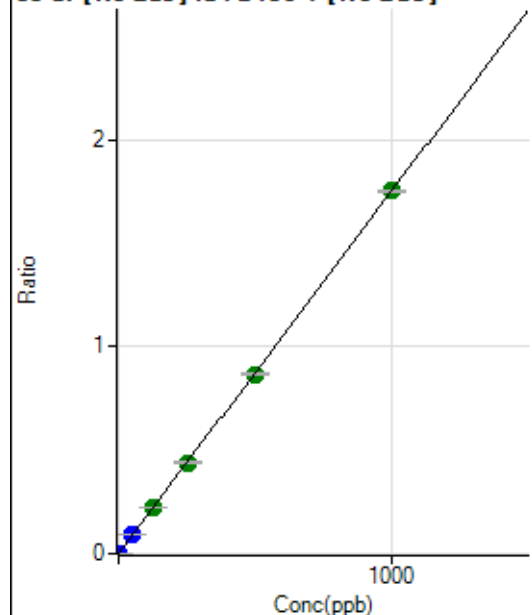
$$DL = 0.08248$$

$$BEC = 0.2511$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	172.23	0.0000	P	24.7
2	☐	0.100					
3	☐	1.000	0.991	16819.33	0.0018	P	1.4
4	☐	50.000	50.857	851209.96	0.0891	P	0.8
5	☐	125.000	128.619	2172128.28	0.2253	A	1.7
6	☐	250.000	251.872	4270685.51	0.4411	A	1.2
7	☐	500.000	495.668	8526267.38	0.8681	A	1.2
8	☐	1000.000	1001.203	16366242.03	1.7535	A	0.5
9	☐			81157.88	0.0086	P	3.0

$$y = 0.0018 * x + 1.8523E-005$$

$$R = 1.0000$$

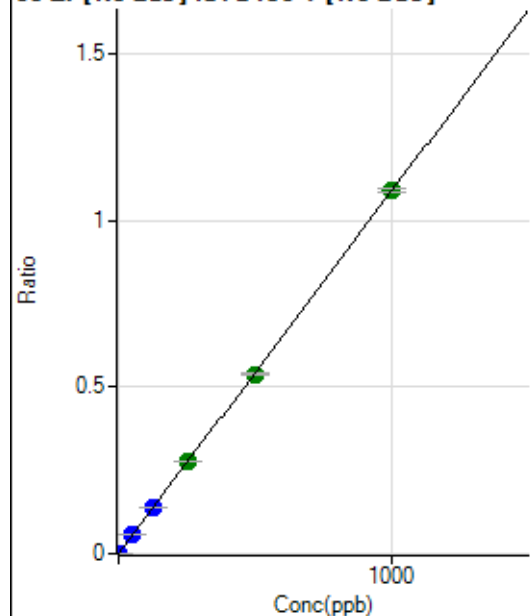
$$DL = 0.007846$$

$$BEC = 0.01058$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	794.51	0.0001	P	14.7
2	☐	0.100					
3	☐	1.000	0.978	11027.12	0.0011	P	3.1
4	☐	50.000	50.653	527620.58	0.0552	P	1.0
5	☐	125.000	126.666	1330167.01	0.1380	P	2.3
6	☐	250.000	253.901	2676370.98	0.2765	A	1.3
7	☐	500.000	495.722	5300453.63	0.5397	A	1.3
8	☐	1000.000	1000.923	10169434.95	1.0896	A	1.0
9	☐			3097.73	0.0003	P	6.3

$$y = 0.0011 * x + 8.5568E-005$$

$$R = 1.0000$$

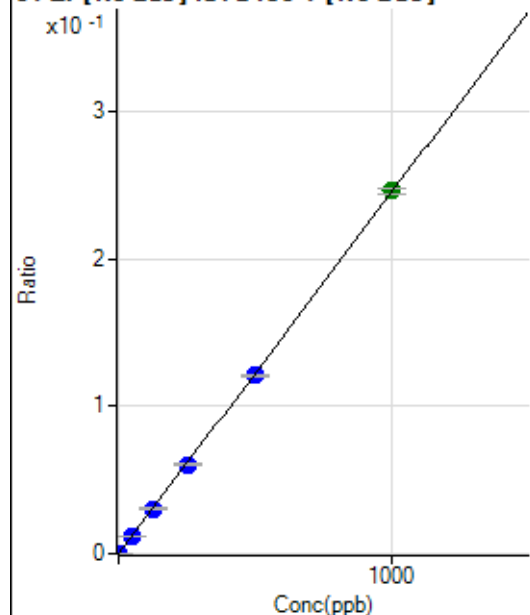
$$DL = 0.0346$$

$$BEC = 0.07861$$

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	177.79	0.0000	P	5.7
2	☐	0.100					
3	☐	1.000	0.986	2503.12	0.0003	P	3.9
4	☐	50.000	49.880	117094.80	0.0123	P	1.5
5	☐	125.000	123.851	293117.86	0.0304	P	2.4
6	☐	250.000	247.473	587919.92	0.0607	P	1.2
7	☐	500.000	492.490	1186751.17	0.1208	P	1.8
8	☐	1000.000	1004.536	2300161.16	0.2465	A	1.4
9	☐			675.05	0.0001	P	4.4

$$y = 2.4532\text{E-}004 * x + 1.9107\text{E-}005$$

$$R = 1.0000$$

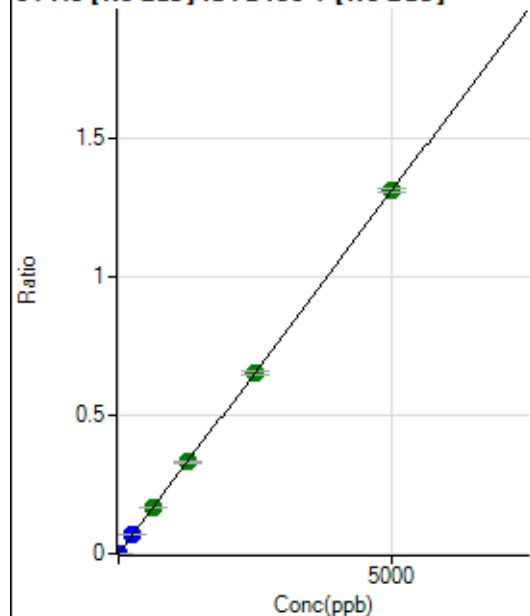
$$DL = 0.01343$$

$$BEC = 0.07788$$

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	338.91	0.0000	P	12.3
2	☐	0.500					
3	☐	5.000	4.815	12422.88	0.0013	P	2.0
4	☐	250.000	254.067	634910.96	0.0664	P	0.7
5	☐	625.000	635.625	1602464.49	0.1662	A	1.0
6	☐	1250.000	1263.706	3198306.37	0.3304	A	1.2
7	☐	2500.000	2484.888	6379587.64	0.6496	A	1.8
8	☐	5000.000	5002.598	12205063.64	1.3077	A	0.9
9	☐			17976.42	0.0019	P	6.0

$$y = 2.6140\text{E-}004 * x + 3.6407\text{E-}005$$

$$R = 1.0000$$

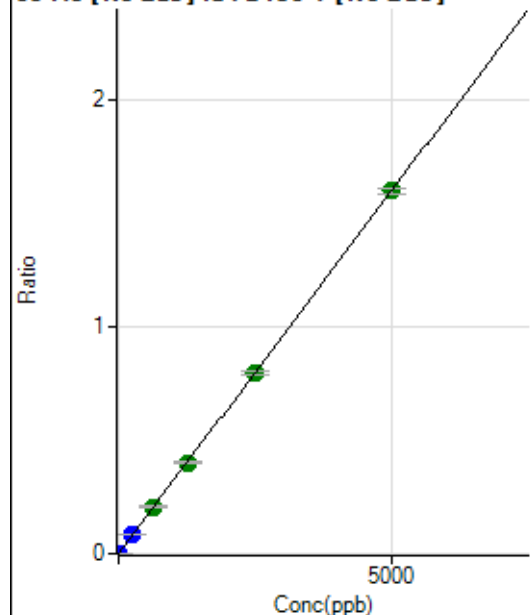
$$DL = 0.05142$$

$$BEC = 0.1393$$

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	21.7
2	☐	0.500					
3	☐	5.000	5.013	15534.55	0.0016	P	4.0
4	☐	250.000	253.778	775907.35	0.0812	P	1.1
5	☐	625.000	642.354	1981492.67	0.2055	A	2.8
6	☐	1250.000	1255.366	3888290.54	0.4017	A	1.5
7	☐	2500.000	2491.888	7829540.11	0.7973	A	2.5
8	☐	5000.000	5000.356	14931001.55	1.5998	A	1.3
9	☐			29583.31	0.0031	P	3.9

$$y = 3.1994\text{E-}004 * x + 1.6124\text{E-}005$$

$$R = 1.0000$$

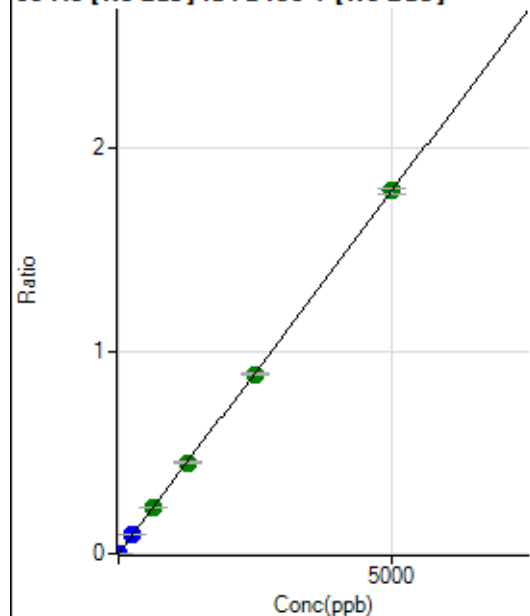
$$DL = 0.03286$$

$$BEC = 0.0504$$

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	333.35	0.0000	P	12.7
2	☐	0.500					
3	☐	5.000	4.880	17094.73	0.0018	P	3.4
4	☐	250.000	253.108	866006.97	0.0906	P	0.8
5	☐	625.000	634.852	2191369.67	0.2273	A	2.1
6	☐	1250.000	1256.427	4354170.45	0.4498	A	1.6
7	☐	2500.000	2478.670	8714053.15	0.8873	A	1.8
8	☐	5000.000	5007.671	16729994.64	1.7926	A	1.2
9	☐			33971.81	0.0036	P	4.2

$$y = 3.5795\text{E-}004 * x + 3.5804\text{E-}005$$

$$R = 1.0000$$

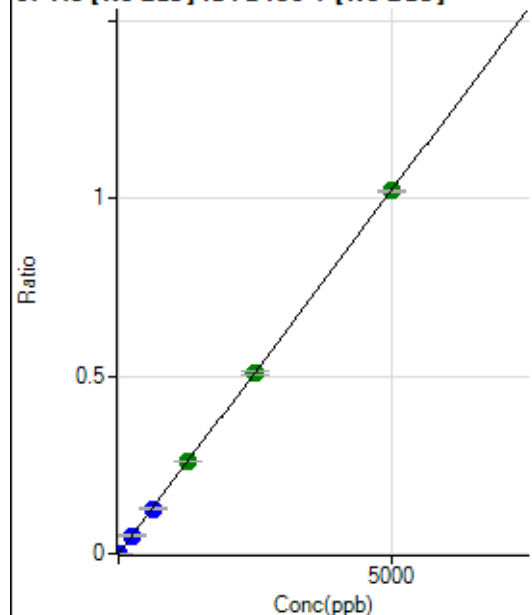
$$DL = 0.03808$$

$$BEC = 0.1$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	91.67	0.0000	P	1.7
2	☐	0.500					
3	☐	5.000	4.931	9776.20	0.0010	P	2.2
4	☐	250.000	250.247	489487.21	0.0512	P	1.3
5	☐	625.000	621.088	1225828.22	0.1271	P	1.8
6	☐	1250.000	1274.970	2526503.57	0.2610	A	1.2
7	☐	2500.000	2499.315	5024102.89	0.5116	A	2.2
8	☐	5000.000	4994.577	9541629.99	1.0223	A	0.8
9	☐			18335.26	0.0019	P	5.7

$$y = 2.0468\text{E-}004 * x + 9.8587\text{E-}006$$

$$R = 1.0000$$

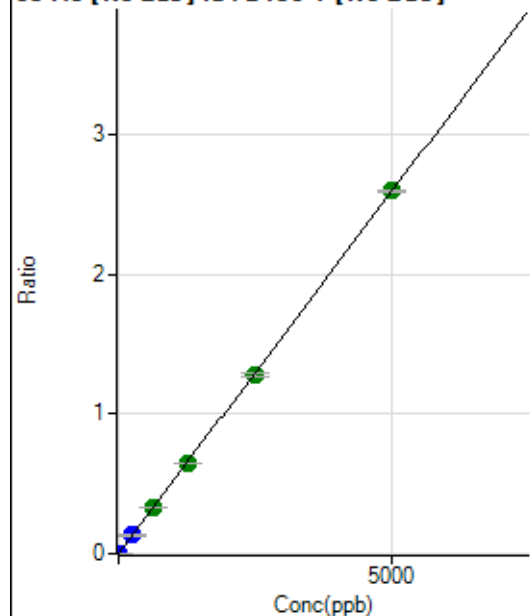
$$DL = 0.002401$$

$$BEC = 0.04817$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.13	0.0000	P	3.7
2	☐	0.500					
3	☐	5.000	4.753	23913.64	0.0025	P	1.6
4	☐	250.000	252.560	1253109.96	0.1312	P	0.8
5	☐	625.000	631.837	3163215.83	0.3281	A	1.7
6	☐	1250.000	1247.902	6272475.53	0.6479	A	1.3
7	☐	2500.000	2474.910	12619772.77	1.2850	A	1.8
8	☐	5000.000	5012.087	24287648.46	2.6023	A	0.7
9	☐			47068.85	0.0050	P	3.6

$$y = 5.1919\text{E-}004 * x + 2.5400\text{E-}005$$

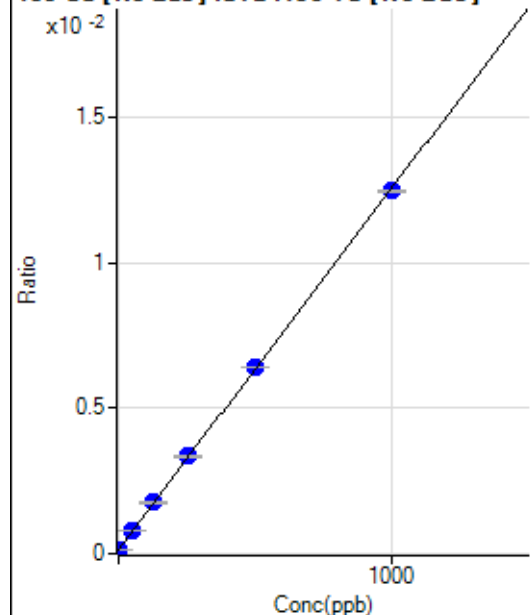
$$R = 1.0000$$

$$DL = 0.005423$$

$$BEC = 0.04892$$

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	1741.88	0.0001	P	6.7
2	☐	0.100					
3	☐	1.000	0.989	1958.58	0.0002	P	3.2
4	☐	50.000	53.220	10215.49	0.0008	P	3.6
5	☐	125.000	130.892	22803.45	0.0018	P	1.9
6	☐	250.000	259.240	43716.09	0.0034	P	2.3
7	☐	500.000	506.181	86455.21	0.0064	P	0.4
8	☐	1000.000	993.702	162396.09	0.0125	P	0.3
9	☐			1727.97	0.0001	P	3.8

$$y = 1.2412\text{E-}005 * x + 1.4072\text{E-}004$$

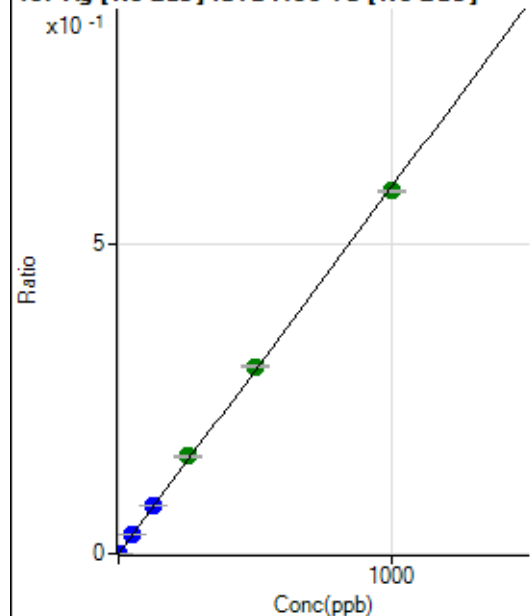
$$R = 0.9999$$

$$DL = 2.262$$

$$BEC = 11.34$$

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	100.01	0.0000	P	32.7
2	☐	0.100					
3	☐	1.000	1.086	8305.71	0.0006	P	2.5
4	☐	50.000	53.760	404710.94	0.0317	P	0.4
5	☐	125.000	132.105	1007559.28	0.0780	P	1.5
6	☐	250.000	265.243	2038563.52	0.1566	A	0.8
7	☐	500.000	511.166	4061760.98	0.3018	A	0.8
8	☐	1000.000	989.530	7605122.83	0.5842	A	0.5
9	☐			994.53	0.0001	P	2.6

$$y = 5.9036\text{E-}004 * x + 8.0665\text{E-}006$$

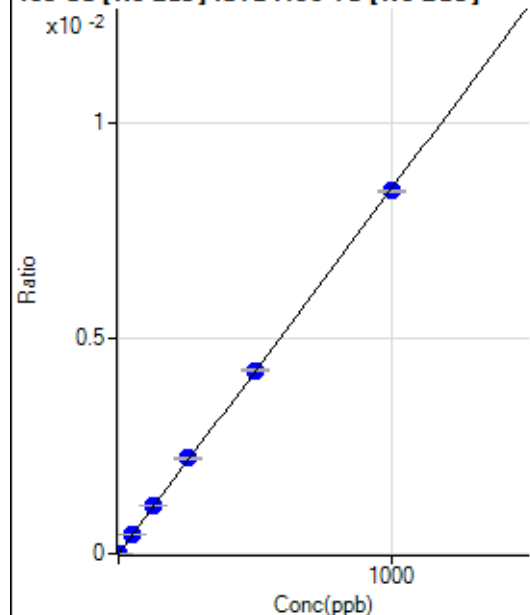
$$R = 0.9998$$

$$DL = 0.0134$$

$$BEC = 0.01366$$

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	2.78	0.0000	P	173.2
2	☐	0.100					
3	☐	1.000	1.015	112.51	0.0000	P	34.8
4	☐	50.000	54.461	5875.02	0.0005	P	2.8
5	☐	125.000	133.434	14583.14	0.0011	P	0.3
6	☐	250.000	261.771	28822.76	0.0022	P	1.2
7	☐	500.000	503.197	57282.42	0.0043	P	0.9
8	☐	1000.000	994.182	109463.55	0.0084	P	0.5
9	☐			50.00	0.0000	P	19.0

$$y = 8.4574\text{E-}006 * x + 2.2601\text{E-}007$$

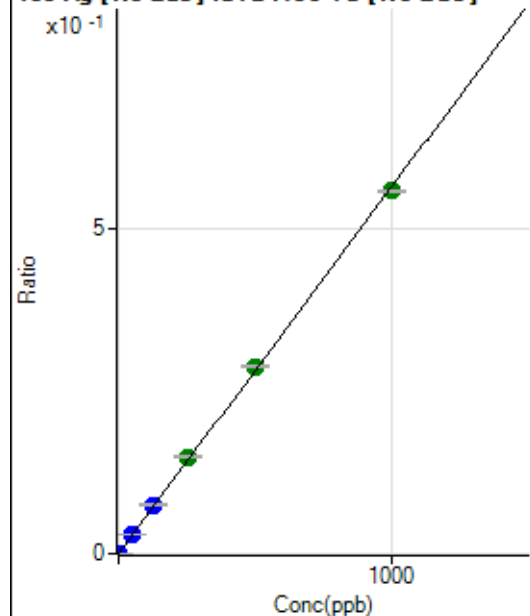
$$R = 0.9999$$

$$DL = 0.1389$$

$$BEC = 0.02672$$

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	55.56	0.0000	P	45.0
2	☐	0.100					
3	☐	1.000	1.078	7852.66	0.0006	P	5.3
4	☐	50.000	53.640	386382.58	0.0303	P	0.4
5	☐	125.000	132.824	969388.67	0.0750	P	1.5
6	☐	250.000	264.200	1942999.61	0.1493	A	1.7
7	☐	500.000	510.924	3884993.36	0.2886	A	1.4
8	☐	1000.000	989.828	7279890.01	0.5592	A	0.6
9	☐			897.29	0.0001	P	8.4

$$y = 5.6495\text{E-}004 * x + 4.4775\text{E-}006$$

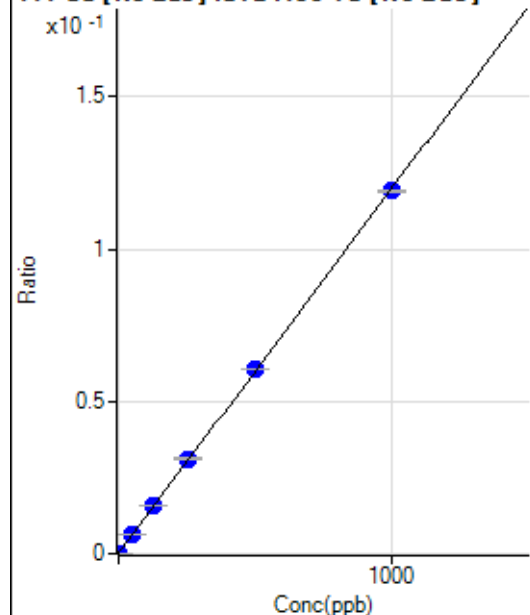
$$R = 0.9998$$

$$DL = 0.01071$$

$$BEC = 0.007925$$

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	1228.48	0.0001	P	6.7
2	☐	0.100					
3	☐	1.000	0.984	2777.09	0.0002	P	0.2
4	☐	50.000	53.224	82489.21	0.0065	P	0.1
5	☐	125.000	131.555	204687.68	0.0158	P	2.6
6	☐	250.000	259.282	405326.29	0.0311	P	1.1
7	☐	500.000	504.632	814385.50	0.0605	P	0.5
8	☐	1000.000	994.383	1550902.50	0.1191	P	0.5
9	☐			1584.32	0.0001	P	3.4

$$y = 1.1971\text{E-}004 * x + 9.9247\text{E-}005$$

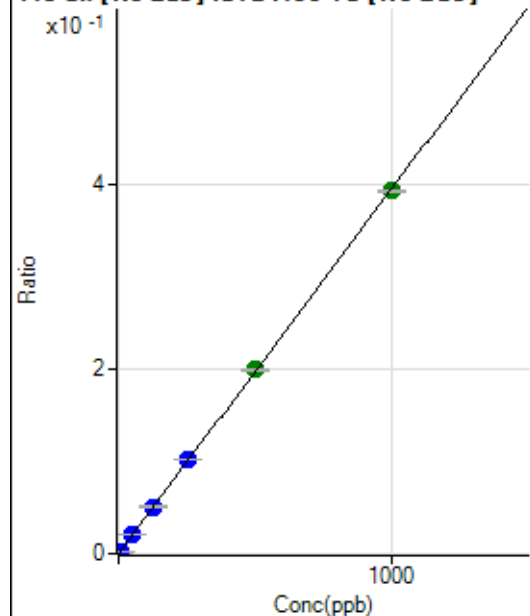
$$R = 0.9999$$

$$DL = 0.1661$$

$$BEC = 0.8291$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1008.42	0.0001	P	4.3
2	☐	0.500					
3	☐	5.000	5.029	26401.92	0.0021	P	5.6
4	☐	50.000	51.885	261780.43	0.0205	P	0.8
5	☐	125.000	128.450	655123.01	0.0507	P	1.7
6	☐	250.000	257.625	1323097.32	0.1016	P	0.7
7	☐	500.000	504.770	2679197.00	0.1991	A	1.2
8	☐	1000.000	995.183	5108064.66	0.3924	A	0.7
9	☐			14547.31	0.0011	P	3.5

$$y = 3.9420\text{E-}004 * x + 8.1417\text{E-}005$$

$$R = 0.9999$$

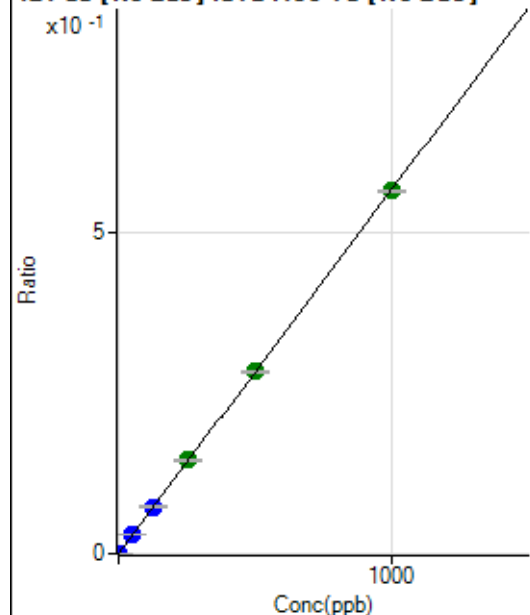
$$DL = 0.02643$$

$$BEC = 0.2065$$

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	72.22	0.0000	P	7.5
2	☐	0.200					
3	☐	2.000	1.987	14508.48	0.0011	P	2.0
4	☐	50.000	51.462	372359.58	0.0292	P	0.9
5	☐	125.000	129.135	946615.58	0.0733	P	2.0
6	☐	250.000	257.768	1904136.94	0.1463	A	1.4
7	☐	500.000	500.423	3822043.75	0.2840	A	0.6
8	☐	1000.000	997.256	7366938.62	0.5659	A	0.7
9	☐			21540.45	0.0017	P	6.7

$$y = 5.6744\text{E-}004 * x + 5.8350\text{E-}006$$

$$R = 1.0000$$

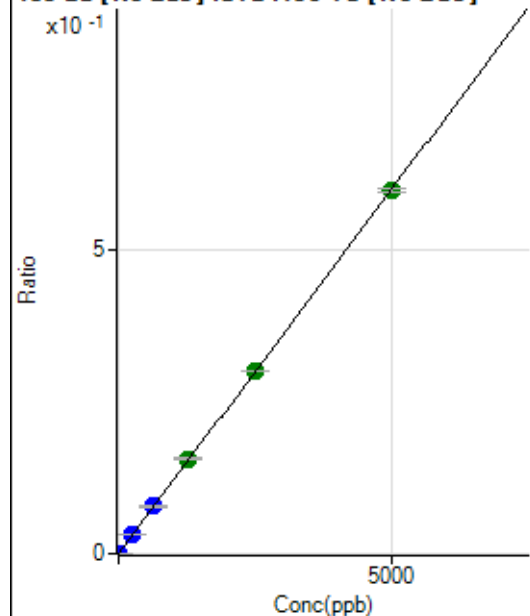
$$DL = 0.002302$$

$$BEC = 0.01028$$

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	22.22	0.0000	P	57.2
2	☐	1.000					
3	☐	10.000	9.688	14858.95	0.0012	P	2.5
4	☐	250.000	261.347	398752.04	0.0313	P	0.7
5	☐	625.000	647.027	1000300.90	0.0774	P	1.4
6	☐	1250.000	1298.291	2022588.13	0.1554	A	1.4
7	☐	2500.000	2507.369	4038783.42	0.3001	A	0.7
8	☐	5000.000	4980.923	7760069.18	0.5961	A	0.9
9	☐			1391.82	0.0001	P	19.0

$$y = 1.1968\text{E-}004 * x + 1.7914\text{E-}006$$

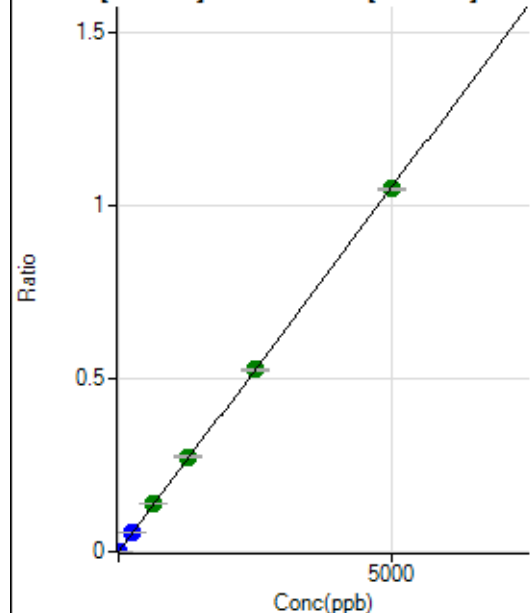
$$R = 0.9999$$

$$DL = 0.0257$$

$$BEC = 0.01497$$

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	50.00	0.0000	P	28.8
2	☐	1.000					
3	☐	10.000	9.963	26850.34	0.0021	P	2.6
4	☐	250.000	258.874	693808.63	0.0544	P	0.5
5	☐	625.000	658.212	1787502.75	0.1384	A	1.0
6	☐	1250.000	1305.940	3574098.43	0.2745	A	0.7
7	☐	2500.000	2498.535	7069401.72	0.5252	A	0.4
8	☐	5000.000	4982.153	13634402.74	1.0473	A	0.6
9	☐			2700.42	0.0002	P	4.3

$$y = 2.1021\text{E-}004 * x + 4.0372\text{E-}006$$

$$R = 0.9999$$

$$DL = 0.01658$$

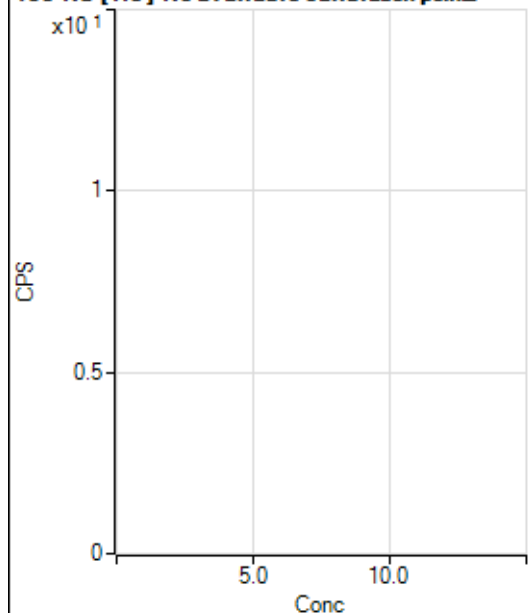
$$BEC = 0.01921$$

Weight: <None>

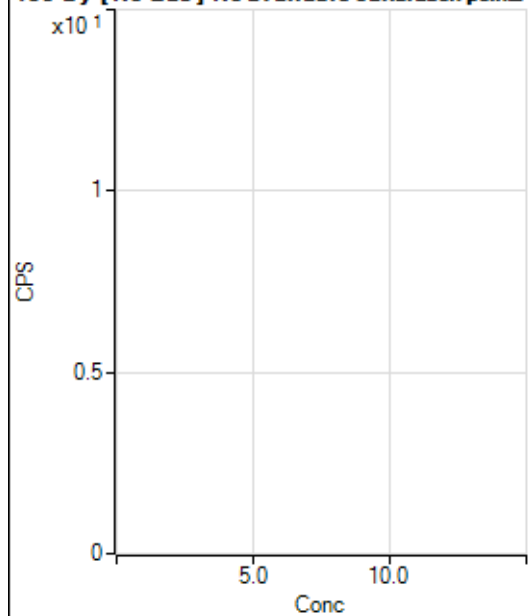
Min Conc: 0

150 Nd [No Gas] No available calibration points

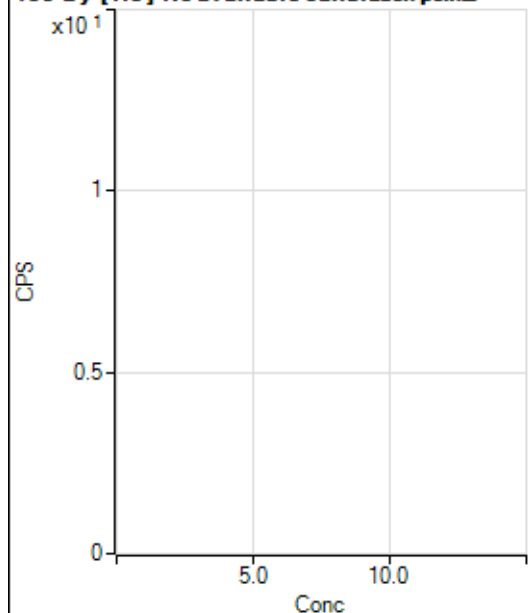
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			4.44		P	173.2
2	☐						
3	☐			4.45		P	86.6
4	☐			11.11		P	34.6
5	☐			37.78		P	71.3
6	☐			91.12		P	22.4
7	☐			160.01		P	15.0
8	☐			286.68		P	19.0
9	☐			97.78		P	14.2

150 Nd [He] No available calibration points

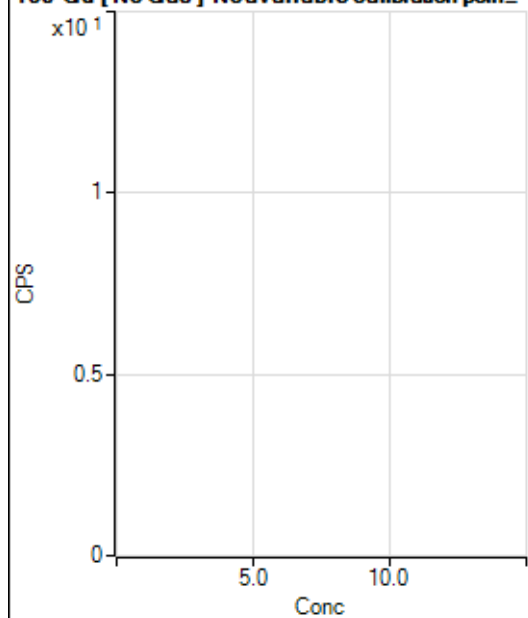
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			0.00		P	
2	☐						
3	☐			1.11		P	173.2
4	☐			0.00		P	
5	☐			0.00		P	
6	☐			1.11		P	173.2
7	☐			3.33		P	100.1
8	☐			3.33		P	100.1
9	☐			13.33		P	25.0

156 Dy [No Gas] No available calibration points

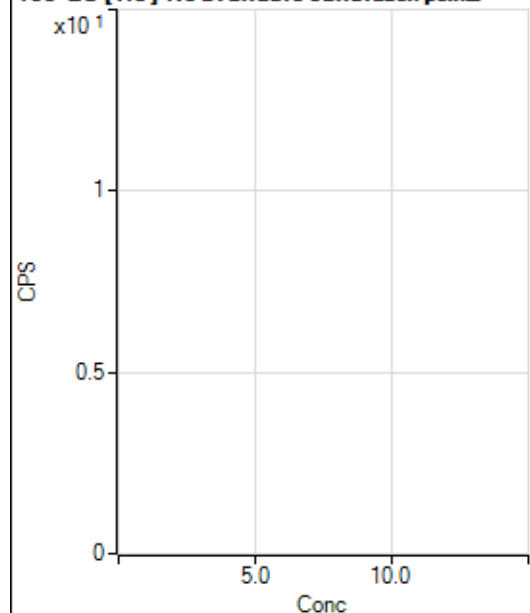
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			30.56		P	31.5
2	☐						
3	☐			52.78		P	32.9
4	☐			52.78		P	32.9
5	☐			30.56		P	63.0
6	☐			63.89		P	27.2
7	☐			69.45		P	36.7
8	☐			130.56		P	20.5
9	☐			130.56		P	42.5

156 Dy [He] No available calibration points

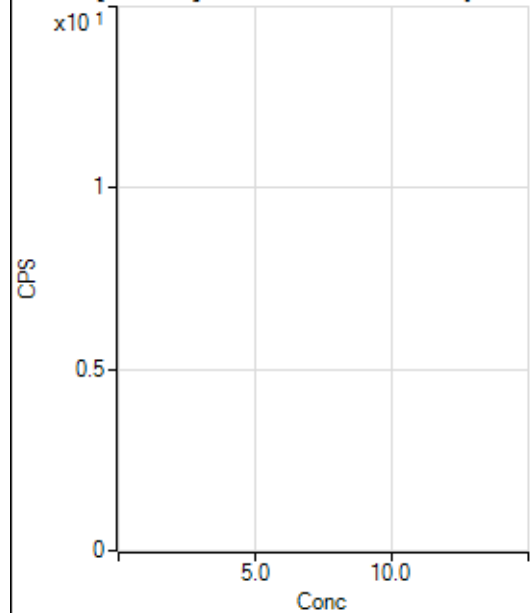
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			3.33		P	100.1
2	☐						
3	☐			2.22		P	86.6
4	☐			2.22		P	86.6
5	☐			1.11		P	173.2
6	☐			3.33		P	173.2
7	☐			6.67		P	50.0
8	☐			10.00		P	66.7
9	☐			13.33		P	90.2

160 Gd [No Gas] Noavailable calibration poin_

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			55.56		P	37.8
2	☐						
3	☐			58.34		P	51.5
4	☐			80.56		P	43.1
5	☐			69.45		P	38.6
6	☐			69.45		P	38.6
7	☐			72.22		P	29.0
8	☐			108.34		P	48.0
9	☐			119.45		P	22.4

160 Gd [He] No available calibration points

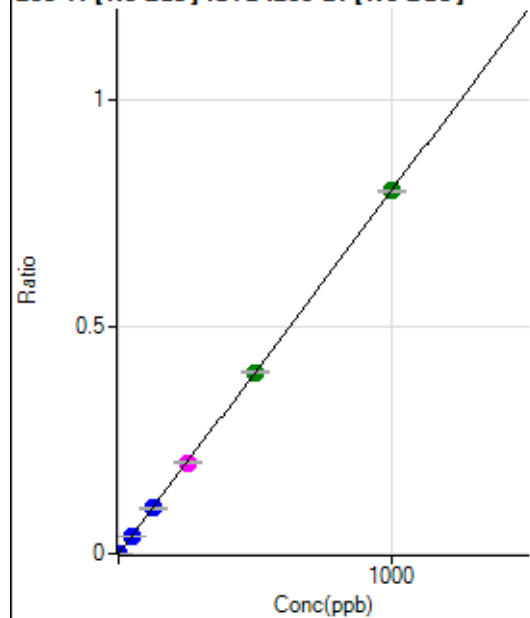
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			2.22		P	173.2
2	☐						
3	☐			4.44		P	43.4
4	☐			15.56		P	118.0
5	☐			11.11		P	17.3
6	☐			10.00		P	33.3
7	☐			10.00		P	0.0
8	☐			14.44		P	70.5
9	☐			20.00		P	16.7

164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			27.78		P	34.6
2	☐						
3	☐			61.11		P	47.9
4	☐			50.00		P	57.7
5	☐			11.11		P	43.3
6	☐			36.11		P	66.6
7	☐			33.33		P	25.0
8	☐			25.00		P	33.3
9	☐			50.00		P	44.1

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			5.56		P	34.7
2	☐						
3	☐			7.78		P	24.7
4	☐			11.11		P	69.3
5	☐			3.33		P	0.0
6	☐			6.67		P	0.0
7	☐			4.44		P	43.4
8	☐			11.11		P	17.3
9	☐			10.00		P	66.7

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	330.58	0.0000	P	11.3
2	☐	0.100					
3	☐	1.000	0.983	6841.01	0.0008	P	2.9
4	☐	50.000	49.930	327526.79	0.0400	P	0.9
5	☐	125.000	124.759	826987.63	0.1000	P	2.2
6	☐	250.000	251.344	1673303.31	0.2014	M	0.4
7	☐	500.000	499.798	3446279.94	0.4004	A	0.5
8	☐	1000.000	999.799	6587474.28	0.8008	A	0.9
9	☐			4067.53	0.0005	P	9.4

$$y = 8.0095E-004 * x + 4.1195E-005$$

$$R = 1.0000$$

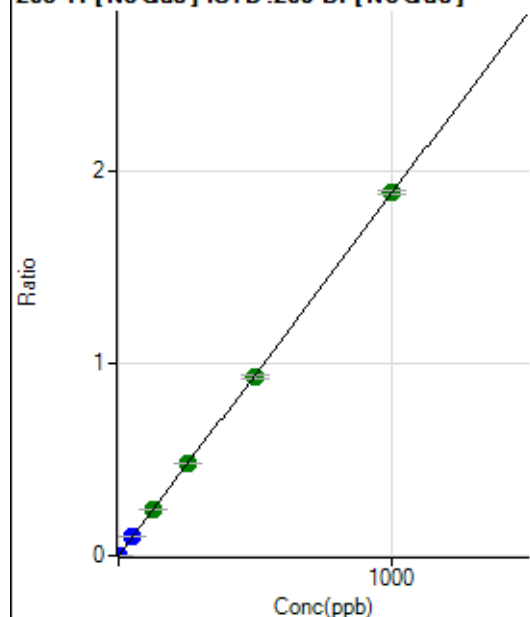
$$DL = 0.01742$$

$$BEC = 0.05143$$

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	777.84	0.0001	P	7.5
2	☐	0.100					
3	☐	1.000	0.989	16185.92	0.0020	P	1.8
4	☐	50.000	51.052	787348.84	0.0962	P	1.0
5	☐	125.000	127.206	1982683.25	0.2397	A	1.4
6	☐	250.000	254.314	3980617.62	0.4790	A	0.8
7	☐	500.000	493.577	8001646.19	0.9296	A	1.2
8	☐	1000.000	1001.804	15519553.30	1.8867	A	1.1
9	☐			9579.08	0.0013	P	5.8

$$y = 0.0019 * x + 9.6899E-005$$

$$R = 1.0000$$

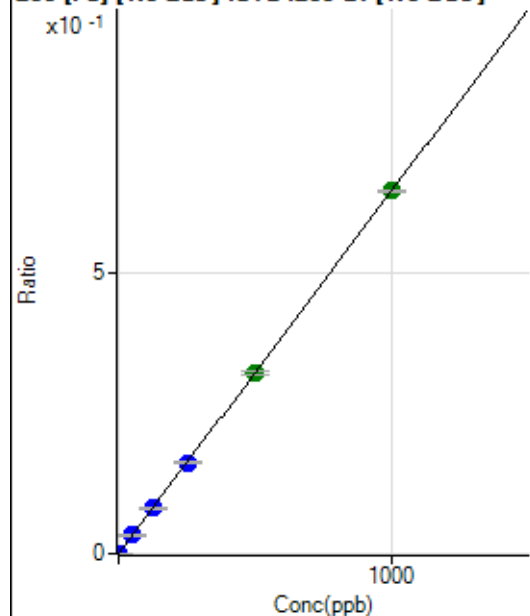
$$DL = 0.0116$$

$$BEC = 0.05145$$

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	427.80	0.0001	P	16.0
2	☐	0.100					
3	☐	1.000	0.972	5638.45	0.0007	P	2.2
4	☐	50.000	50.429	267540.85	0.0327	P	1.3
5	☐	125.000	125.104	670546.93	0.0810	P	1.3
6	☐	250.000	250.396	1347540.57	0.1622	P	1.4
7	☐	500.000	498.916	2780817.60	0.3231	A	1.3
8	☐	1000.000	1000.408	5328378.59	0.6477	A	0.9
9	☐			31283.46	0.0041	P	3.9

$$y = 6.4743E-004 * x + 5.3325E-005$$

$$R = 1.0000$$

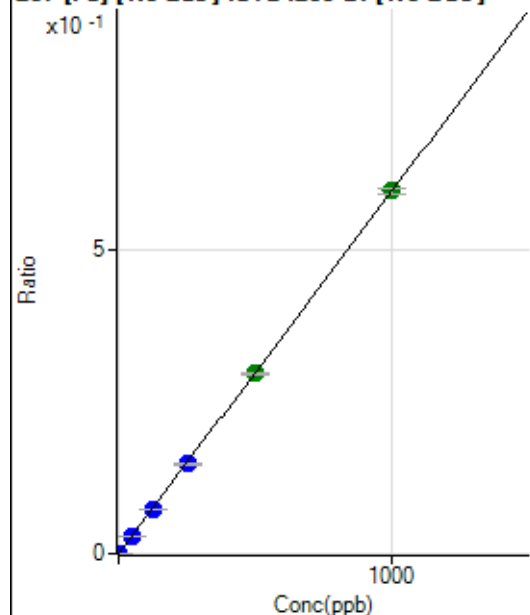
$$DL = 0.03945$$

$$BEC = 0.08236$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	448.17	0.0001	P	3.0
2	☐	0.100					
3	☐	1.000	0.952	5145.64	0.0006	P	0.8
4	☐	50.000	49.585	242236.99	0.0296	P	0.8
5	☐	125.000	123.067	607266.61	0.0734	P	1.7
6	☐	250.000	247.885	1228145.44	0.1478	P	1.1
7	☐	500.000	497.415	2552246.61	0.2965	A	1.4
8	☐	1000.000	1002.084	4913157.63	0.5973	A	1.3
9	☐			25932.70	0.0034	P	2.8

$$y = 5.9600\text{E-}004 * x + 5.5813\text{E-}005$$

$$R = 1.0000$$

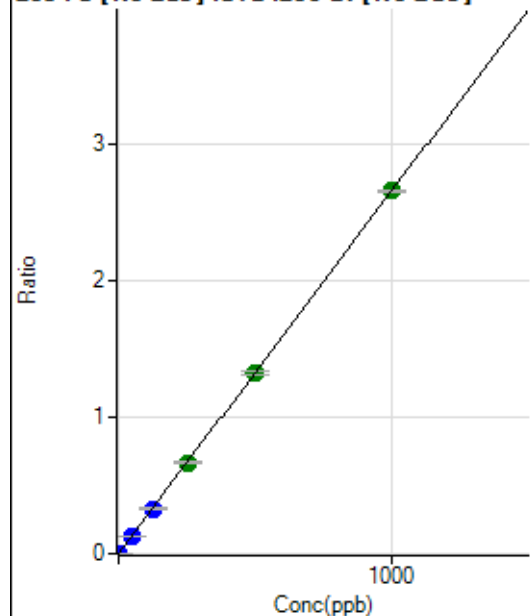
$$DL = 0.008489$$

$$BEC = 0.09364$$

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	1822.33	0.0002	P	9.5
2	☐	0.100					
3	☐	1.000	0.962	22995.89	0.0028	P	0.7
4	☐	50.000	50.065	1090808.37	0.1333	P	0.8
5	☐	125.000	124.533	2740956.79	0.3313	P	1.6
6	☐	250.000	251.741	5563532.55	0.6695	A	1.0
7	☐	500.000	497.697	11391120.54	1.3234	A	1.4
8	☐	1000.000	1000.771	21888375.72	2.6609	A	0.6
9	☐			122148.67	0.0159	P	3.1

$$y = 0.0027 * x + 2.2706\text{E-}004$$

$$R = 1.0000$$

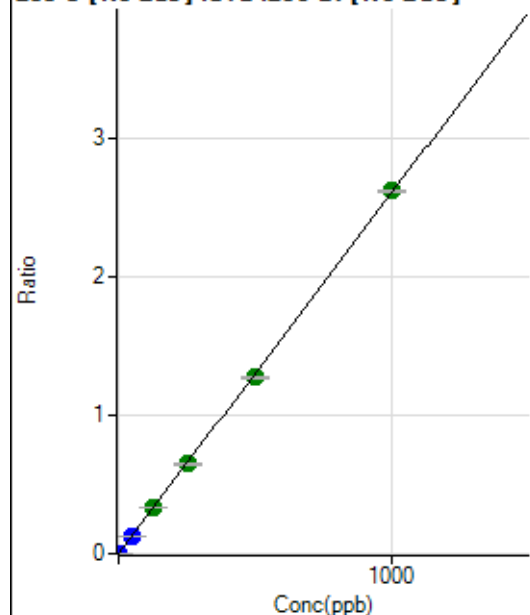
$$DL = 0.02422$$

$$BEC = 0.0854$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.34	0.0000	P	25.8
2	☐	0.100					
3	☐	1.000	0.936	20242.25	0.0025	P	1.2
4	☐	50.000	49.469	1055795.89	0.1290	P	0.1
5	☐	125.000	126.263	2724891.86	0.3294	A	1.2
6	☐	250.000	248.052	5376473.08	0.6470	A	1.7
7	☐	500.000	489.610	10992803.98	1.2771	A	1.4
8	☐	1000.000	1005.551	21576213.68	2.6229	A	0.7
9	☐			1961.37	0.0003	P	19.5

$$y = 0.0026 * x + 1.0363E-005$$

$$R = 0.9999$$

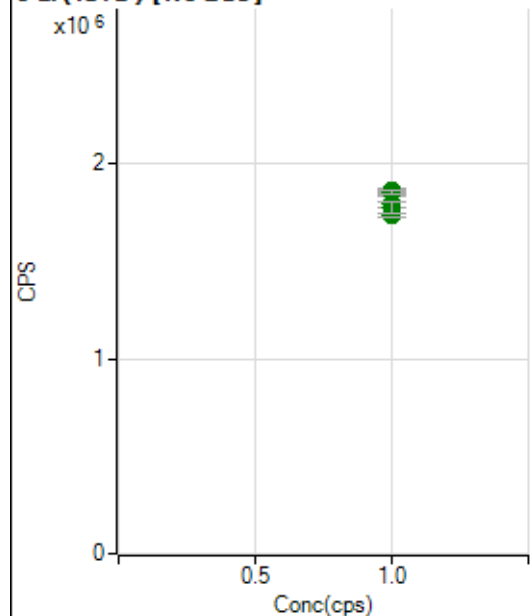
$$DL = 0.003071$$

$$BEC = 0.003973$$

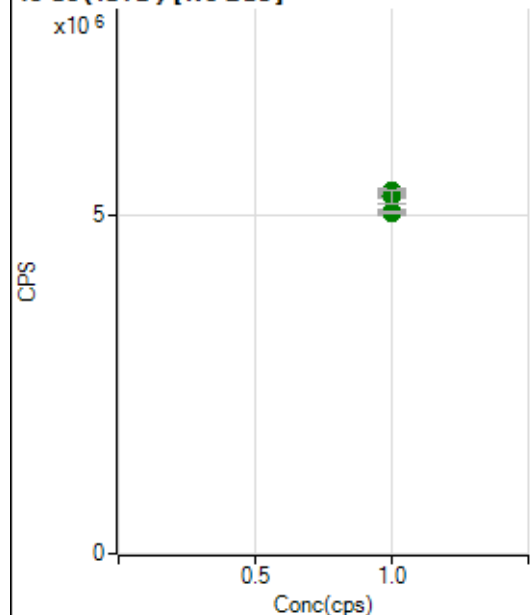
Weight: <None>

Min Conc: 0

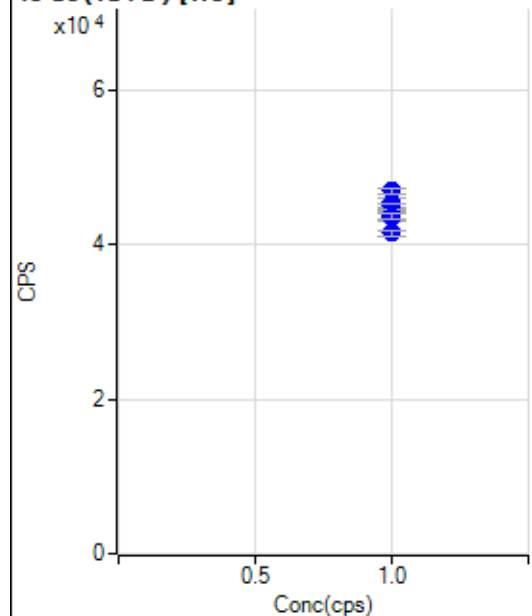
6 Li (ISTD) [No Gas]



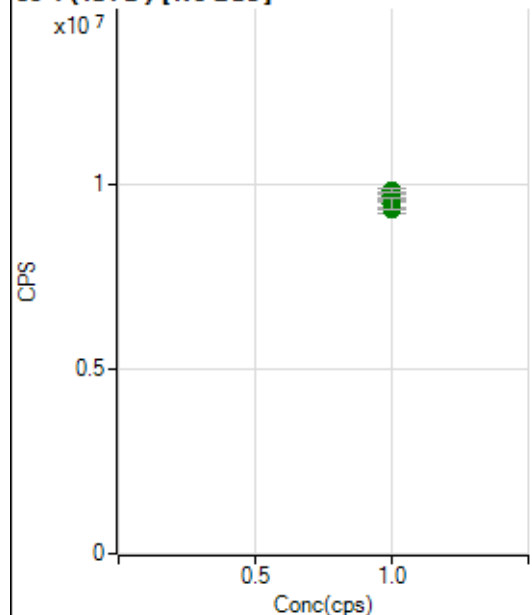
	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1791479.70		A	1.6
2	☐	1.000					
3	☐	1.000		1860960.09		A	0.5
4	☐	1.000		1853393.71		A	1.6
5	☐	1.000		1861241.48		A	1.1
6	☐	1.000		1860887.54		A	0.8
7	☐	1.000		1854895.09		A	0.6
8	☐	1.000		1738101.31		A	0.8
9	☐	1.000		1775803.76		A	3.1

45 Sc (ISTD) [No Gas]

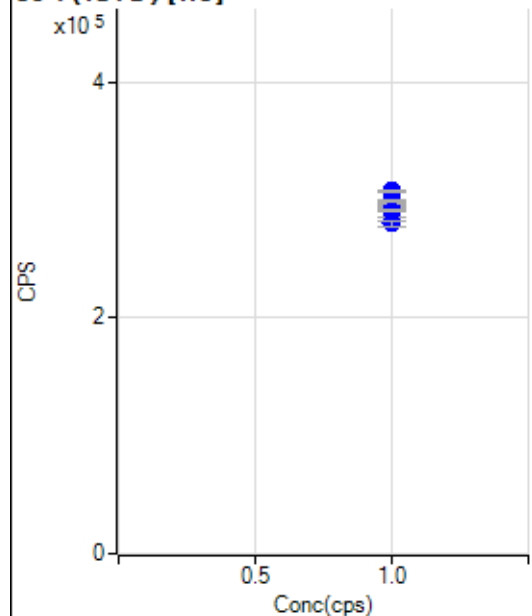
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5042039.48		A	1.6
2	☐	1.000					
3	☐	1.000		5296334.36		A	0.7
4	☐	1.000		5278650.73		A	0.8
5	☐	1.000		5274319.13		A	0.8
6	☐	1.000		5287319.78		A	0.9
7	☐	1.000		5355221.47		A	0.9
8	☐	1.000		5036757.36		A	0.7
9	☐	1.000		5265673.38		A	3.7

45 Sc (ISTD) [He]

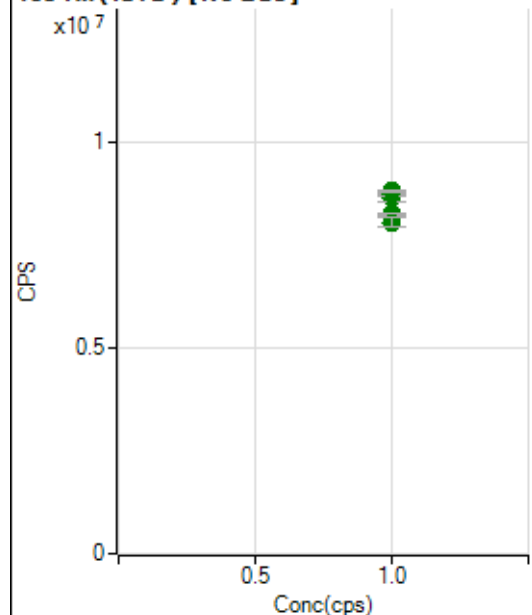
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		44939.65		P	1.0
2	☐	1.000					
3	☐	1.000		45630.77		P	1.7
4	☐	1.000		44603.07		P	1.1
5	☐	1.000		45281.70		P	0.4
6	☐	1.000		43793.81		P	3.4
7	☐	1.000		43600.15		P	1.8
8	☐	1.000		41471.37		P	1.5
9	☐	1.000		46941.61		P	1.5

89 Y (ISTD) [No Gas]

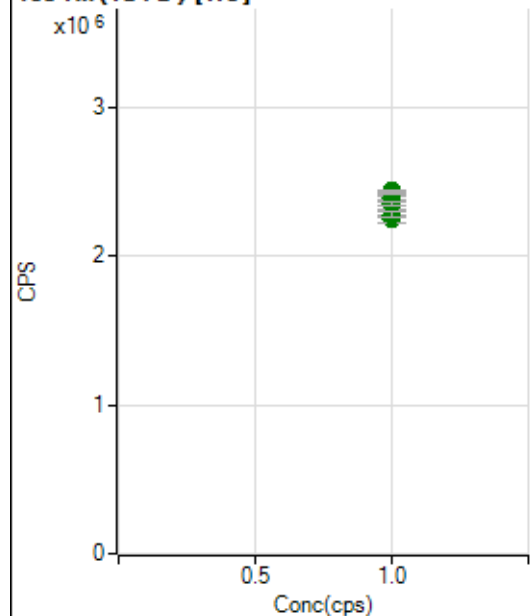
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9300113.47		A	1.6
2	☐	1.000					
3	☐	1.000		9592395.69		A	1.2
4	☐	1.000		9555009.30		A	0.8
5	☐	1.000		9643384.51		A	1.4
6	☐	1.000		9681785.27		A	1.1
7	☐	1.000		9822332.56		A	1.1
8	☐	1.000		9333646.53		A	0.8
9	☐	1.000		9489383.33		A	3.3

89 Y (ISTD) [He]

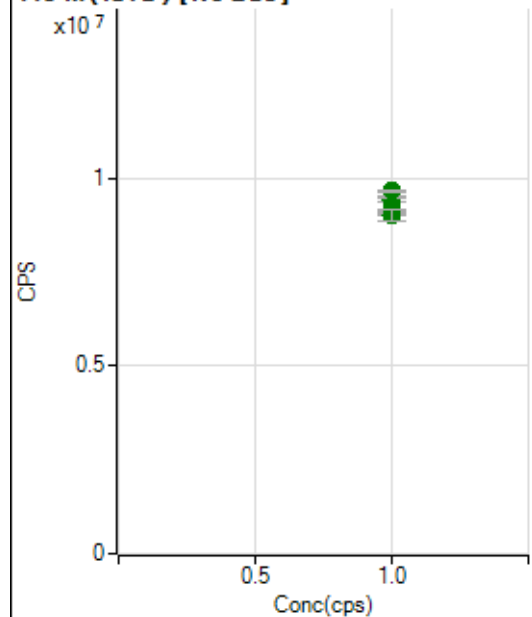
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		294443.08		P	0.9
2	☐	1.000					
3	☐	1.000		297760.21		P	0.5
4	☐	1.000		297499.49		P	0.9
5	☐	1.000		299815.02		P	0.5
6	☐	1.000		290540.24		P	3.8
7	☐	1.000		290887.36		P	0.7
8	☐	1.000		279631.47		P	1.7
9	☐	1.000		307570.39		P	0.8

103 Rh (ISTD) [No Gas]

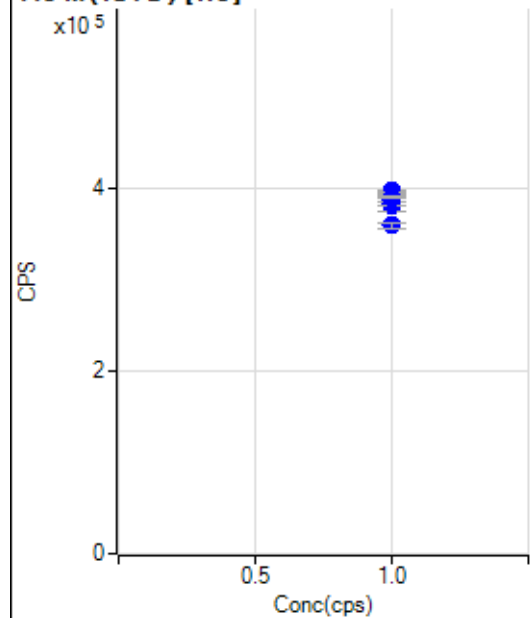
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		8615958.61		A	1.3
2	☐	1.000					
3	☐	1.000		8802792.47		A	0.4
4	☐	1.000		8739806.01		A	0.4
5	☐	1.000		8762020.34		A	0.8
6	☐	1.000		8726105.14		A	1.0
7	☐	1.000		8808928.75		A	0.7
8	☐	1.000		8260587.34		A	0.6
9	☐	1.000		8040228.91		A	2.8

103 Rh (ISTD) [He]

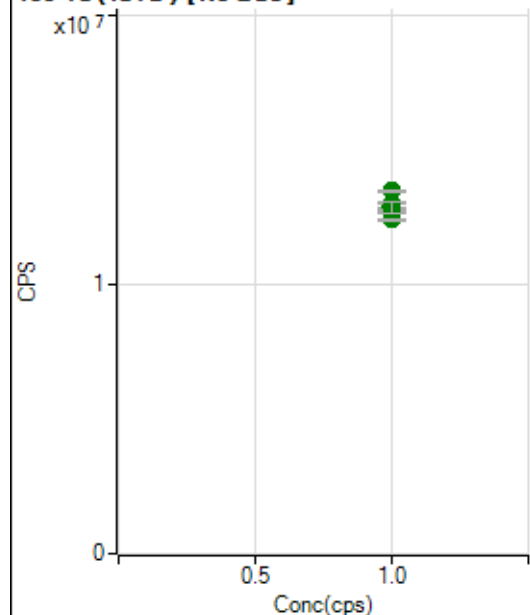
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2388191.02		A	1.1
2	☐	1.000					
3	☐	1.000		2433395.57		A	0.4
4	☐	1.000		2430601.72		A	0.4
5	☐	1.000		2440659.25		A	0.6
6	☐	1.000		2363807.07		A	4.3
7	☐	1.000		2354576.51		A	1.6
8	☐	1.000		2250433.00		A	2.4
9	☐	1.000		2282483.11		A	1.3

115 In (ISTD) [No Gas]

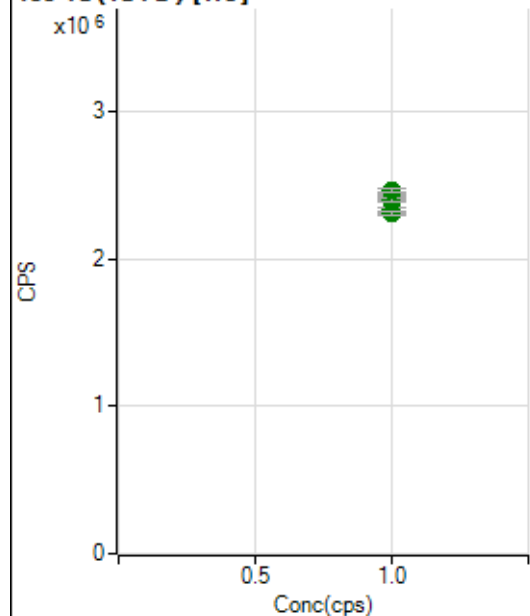
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9095522.80		A	0.6
2	☐	1.000					
3	☐	1.000		9436339.97		A	1.1
4	☐	1.000		9371329.19		A	0.2
5	☐	1.000		9429080.19		A	0.9
6	☐	1.000		9490727.05		A	0.9
7	☐	1.000		9658063.61		A	0.6
8	☐	1.000		9040952.12		A	0.3
9	☐	1.000		9010808.66		A	3.3

115 In (ISTD) [He]

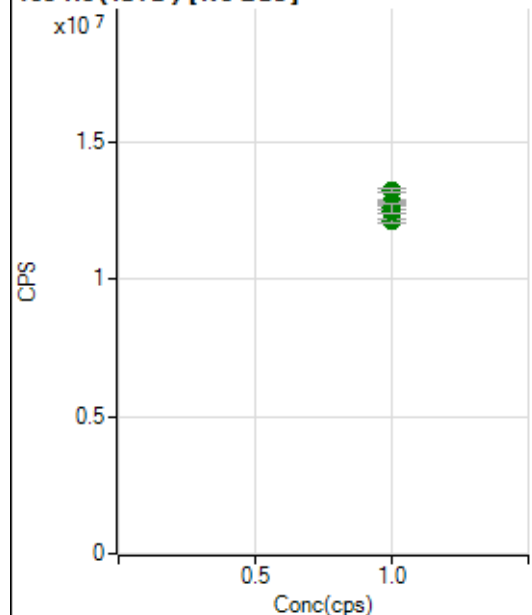
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		387026.25		P	1.4
2	☐	1.000					
3	☐	1.000		396199.79		P	0.4
4	☐	1.000		392608.26		P	0.1
5	☐	1.000		393535.00		P	0.2
6	☐	1.000		380646.69		P	3.8
7	☐	1.000		382242.44		P	1.2
8	☐	1.000		358547.78		P	1.9
9	☐	1.000		389263.99		P	0.8

159 Tb (ISTD) [No Gas]

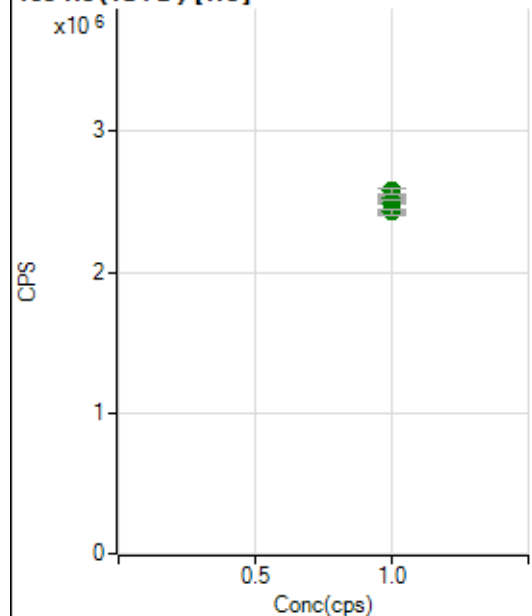
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		12382768.42		A	0.9
2	☐	1.000					
3	☐	1.000		12798374.81		A	1.2
4	☐	1.000		12748497.59		A	0.2
5	☐	1.000		12919616.34		A	1.5
6	☐	1.000		13018517.44		A	0.9
7	☐	1.000		13459615.08		A	0.4
8	☐	1.000		13018487.58		A	0.5
9	☐	1.000		12836466.89		A	3.4

159 Tb (ISTD) [He]

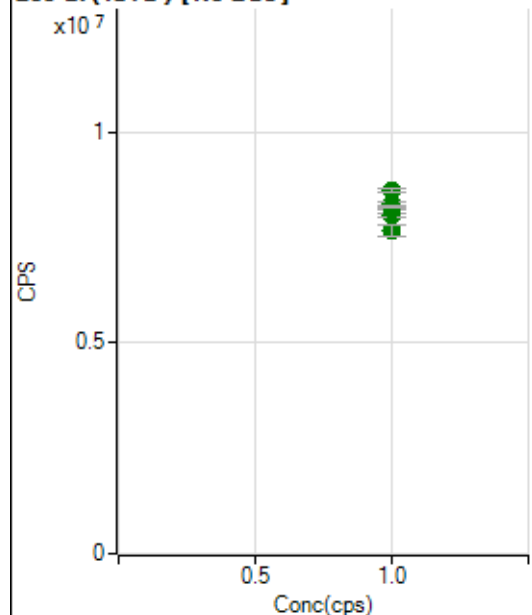
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2327856.70		A	1.4
2	☐	1.000					
3	☐	1.000		2385824.11		A	0.5
4	☐	1.000		2391779.79		A	0.8
5	☐	1.000		2419621.11		A	0.3
6	☐	1.000		2380621.02		A	4.6
7	☐	1.000		2394850.80		A	1.4
8	☐	1.000		2308988.16		A	1.4
9	☐	1.000		2458616.72		A	1.0

165 Ho (ISTD) [No Gas]

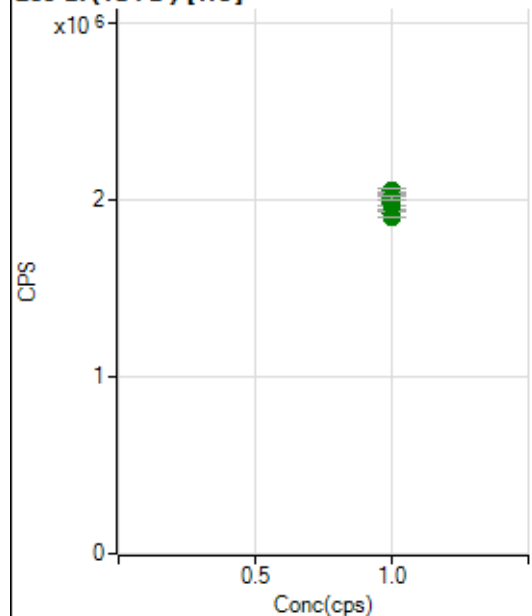
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		12110415.55		A	1.2
2	☐	1.000					
3	☐	1.000		12422152.27		A	1.1
4	☐	1.000		12438985.34		A	0.9
5	☐	1.000		12710644.73		A	0.3
6	☐	1.000		12781785.70		A	1.0
7	☐	1.000		13202464.88		A	1.0
8	☐	1.000		12724379.28		A	0.9
9	☐	1.000		12568678.23		A	3.0

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2434168.47		A	1.1
2	☐	1.000					
3	☐	1.000		2494605.52		A	0.8
4	☐	1.000		2506086.83		A	0.7
5	☐	1.000		2530878.94		A	0.6
6	☐	1.000		2484577.45		A	3.8
7	☐	1.000		2529027.48		A	0.8
8	☐	1.000		2425424.98		A	1.9
9	☐	1.000		2576946.16		A	1.4

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		8031790.71		A	1.2
2	☐	1.000					
3	☐	1.000		8257931.13		A	0.2
4	☐	1.000		8181497.93		A	0.7
5	☐	1.000		8274336.75		A	1.5
6	☐	1.000		8310312.03		A	1.0
7	☐	1.000		8608405.49		A	1.2
8	☐	1.000		8226184.88		A	0.8
9	☐	1.000		7665303.84		A	3.7

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1984383.62		A	1.8
2	☐	1.000					
3	☐	1.000		2037062.12		A	1.1
4	☐	1.000		2030140.94		A	0.3
5	☐	1.000		2052963.70		A	1.0
6	☐	1.000		1993452.89		A	4.3
7	☐	1.000		2011872.52		A	0.9
8	☐	1.000		1922504.47		A	1.9
9	☐	1.000		1904807.26		A	0.4

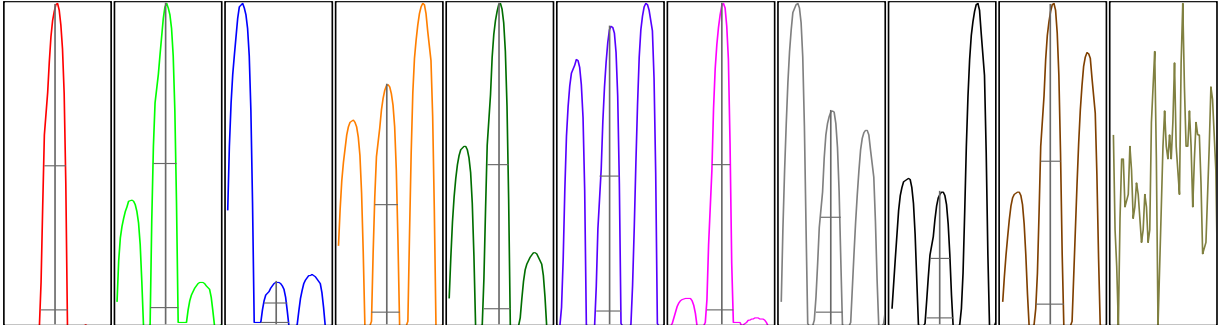
US EPA Tune Check Sample Report

Batch Folder D:\P80710218MS.b
Report Comment
Instrument Name G8403A JP17141814

[No Gas]				
Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	6023	1.54	5.00	
24	95930	1.20	5.00	
25	13003	0.94	5.00	
26	15203	1.00	5.00	
59	62479	1.18	5.00	
113	9002	1.09	5.00	
115	114253	1.22	5.00	
206	29419	1.73	5.00	
207	26972	1.06	5.00	
208	64567	0.79	5.00	
220	1	28.28		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	5891	6091	5991	6130	6016
24	94031	96612	95706	96876	96427
25	12809	13081	12957	13109	13061
26	14976	15230	15148	15282	15379
59	61649	61953	62714	62529	63552
113	8994	8884	9006	8971	9155
115	114323	113779	114354	112464	116344
206	29572	28864	29629	28948	30082
207	26998	26738	26980	26718	27428
208	64645	64104	64912	63993	65178
220	1	1	1	1	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	10404	8.95	8.9 - 9.1		0.776	0.900	
24	159423	23.95	23.9 - 24.1		0.786	0.900	
25	21525	24.95	24.9 - 25.1		0.786	0.900	
26	25271	25.95	25.9 - 26.1		0.785	0.900	
59	109500	59.00	58.9 - 59.1		0.777	0.900	
113	17038	113.00	112.9 - 113.1		0.726	0.900	
115	215369	115.05	114.9 - 115.1		0.762	0.900	
206	54103	206.00	205.9 - 206.1		0.774	0.900	
207	49053	206.95	206.9 - 207.1		0.776	0.900	
208	117726	207.95	207.9 - 208.1		0.780	0.900	
220			-				

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
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	9.0	V	Deflect	14.6	V
Extract 2	-240.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-115	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	190	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	8702	1.90	
89	8259	2.08	
205	12115	1.84	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	8425	8703	8801	8733	8850
89	7959	8283	8375	8315	8366
205	11716	12214	12235	12190	12220

Integration Time [sec] = 0.1

Tune Parameters

Plasma Paramters

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	9.0	V	Deflect	1.6	V
Extract 2	-240.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-115	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	190	V			