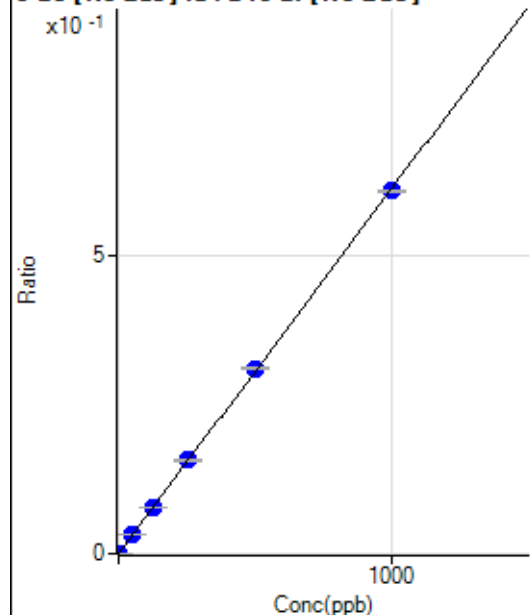


Batch Folder: D:\ICP-MS Data\P711022019 MS.b\
Analysis File: P711022019 MS.batch.bin
DA Date-Time: 2019-11-02 20:29:33
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2019-11-02 12:08:31
2	004CALS.d	S01	2019-11-02 12:12:05
3	005CALS.d	S02	2019-11-02 12:16:44
4	006CALS.d	S03	2019-11-02 12:20:38
5	007CALS.d	S04	2019-11-02 12:24:40
6	008CALS.d	S05	2019-11-02 12:28:29
7	009CALS.d	S06	2019-11-02 12:32:15
8	010CALS.d	S07	2019-11-02 12:35:59
9	011CALS.d	S08	2019-11-02 12:39:42

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0000	P	37.8
2	☐	0.100	0.118	474.10	0.0001	P	2.9
3	☐	1.000	1.021	3611.64	0.0006	P	2.4
4	☐	50.000	52.056	183595.15	0.0318	P	1.3
5	☐	125.000	128.282	451874.77	0.0783	P	0.5
6	☐	250.000	255.989	902154.01	0.1562	P	0.4
7	☐	500.000	506.647	1749304.03	0.3091	P	0.9
8	☐	1000.000	994.666	3359392.15	0.6069	P	0.4
9	☐			492.61	0.0001	P	10.2

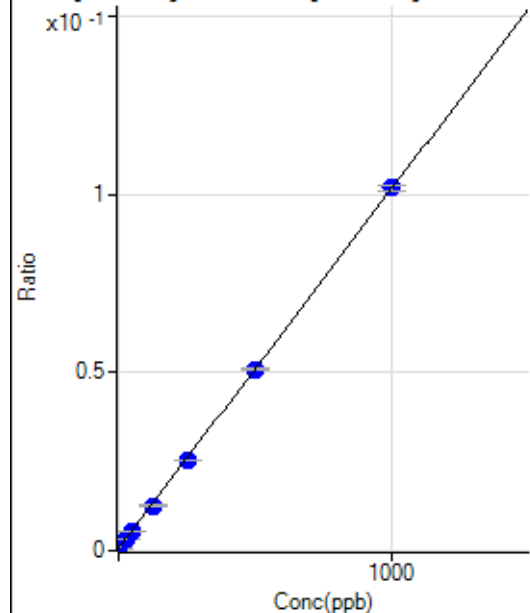
$$y = 6.1011\text{E-}004 * x + 1.1734\text{E-}005$$

$$R = 0.9999$$

$$DL = 0.02184$$

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	3664.47	0.0006	P	4.6
2	☐	2.500	3.566	5701.32	0.0010	P	3.8
3	☐	25.000	24.368	17672.05	0.0031	P	1.3
4	☐	50.000	49.523	32636.32	0.0056	P	0.8
5	☐	125.000	118.859	73024.33	0.0127	P	2.7
6	☐	250.000	245.324	146852.28	0.0254	P	0.5
7	☐	500.000	497.573	288058.26	0.0509	P	1.4
8	☐	1000.000	1003.187	564471.49	0.1020	P	1.6
9	☐			20191.93	0.0039	P	5.2

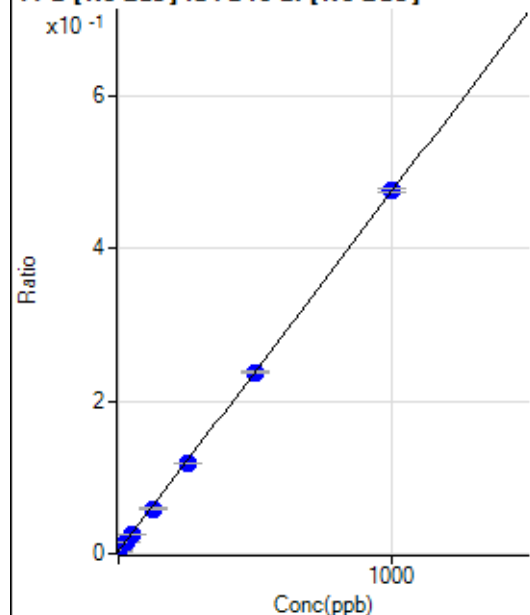
$$y = 1.0101\text{E-}004 * x + 6.4553\text{E-}004$$

$$R = 1.0000$$

$$DL = 0.8787$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17747.18	0.0031	P	2.1
2	☐	2.500	2.962	25628.03	0.0045	P	3.3
3	☐	25.000	24.511	83439.79	0.0147	P	1.7
4	☐	50.000	48.114	149000.98	0.0258	P	1.7
5	☐	125.000	118.743	340848.69	0.0590	P	1.4
6	☐	250.000	245.121	684770.15	0.1186	P	1.3
7	☐	500.000	498.787	1346963.78	0.2380	P	1.3
8	☐	1000.000	1002.714	2631285.35	0.4754	P	1.2
9	☐			94358.55	0.0182	P	5.6

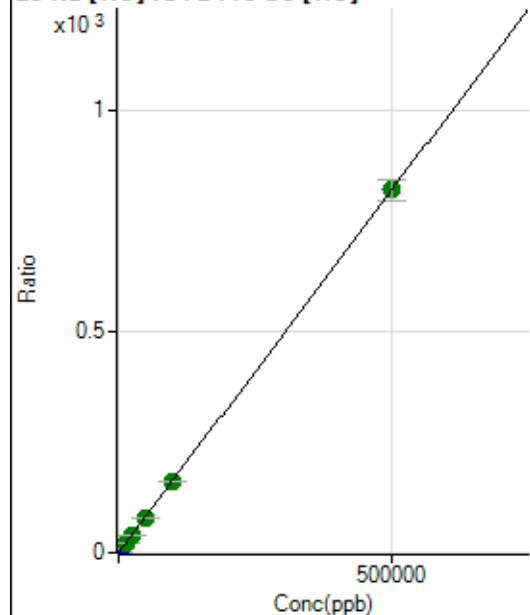
$$y = 4.7095\text{E-}004 * x + 0.0031$$

$$R = 1.0000$$

$$DL = 0.4095$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8922.43	0.0242	P	3.4
2	☐	50.000	49.527	38965.52	0.1054	P	2.1
3	☐	500.000	493.440	311299.07	0.8332	P	0.7
4	☐	5000.000	4861.171	2984284.07	7.9946	P	0.4
5	☐	12500.000	12011.896	7336908.93	19.7189	A	0.2
6	☐	25000.000	24118.167	14827128.46	39.5683	A	0.9
7	☐	50000.000	47766.586	29152553.43	78.3423	A	0.4
8	☐	100000.00	97610.473	58850054.79	160.0663	A	0.5
9	☐	500000.00	500758.93	294136634.3	821.0687	A	5.6

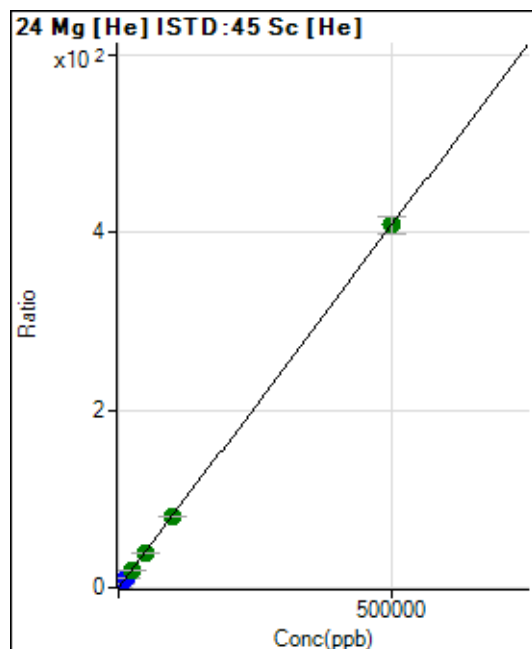
$$y = 0.0016 * x + 0.0242$$

$$R = 1.0000$$

$$DL = 1.517$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	452.80	0.0012	P	18.8
2	☐	50.000	55.056	17051.92	0.0461	P	1.1
3	☐	500.000	528.832	161558.47	0.4324	P	0.5
4	☐	5000.000	4996.925	1521383.83	4.0757	P	1.0
5	☐	12500.000	12370.063	3753397.13	10.0877	P	0.4
6	☐	25000.000	24601.661	7517629.59	20.0613	A	0.6
7	☐	50000.000	48818.198	14813103.46	39.8073	A	0.2
8	☐	100000.00	98827.951	29627380.52	80.5849	A	0.9
9	☐	500000.00	500375.75	146196044.9	408.0045	A	4.9

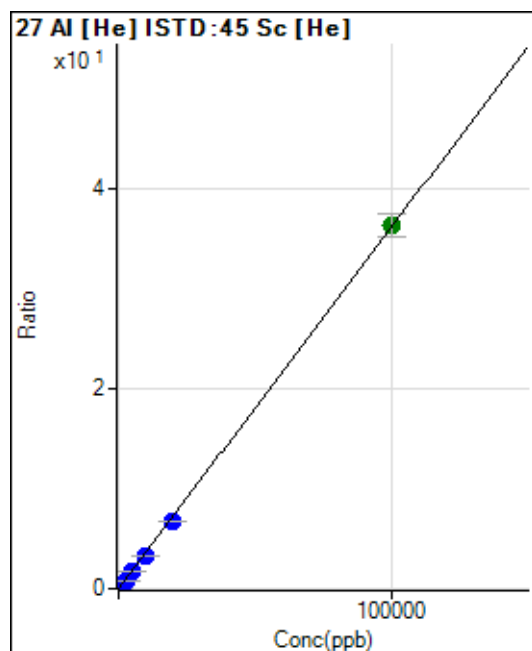
$$y = 8.1539\text{E-}004 * x + 0.0012$$

$$R = 1.0000$$

$$DL = 0.8496$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25.00	0.0001	P	33.2
2	☐	2.000	2.164	313.90	0.0008	P	1.8
3	☐	20.000	18.387	2505.87	0.0067	P	11.7
4	☐	1000.000	935.004	126075.41	0.3377	P	0.9
5	☐	2500.000	2333.280	313547.47	0.8427	P	0.7
6	☐	5000.000	4644.065	628493.63	1.6772	P	1.0
7	☐	10000.000	9227.695	1240088.75	3.3325	P	0.5
8	☐	20000.000	18794.956	2495527.83	6.7876	P	0.6
9	☐	100000.00	100340.85	12978569.48	36.2367	A	6.2

$$y = 3.6114\text{E-}004 * x + 6.7716\text{E-}005$$

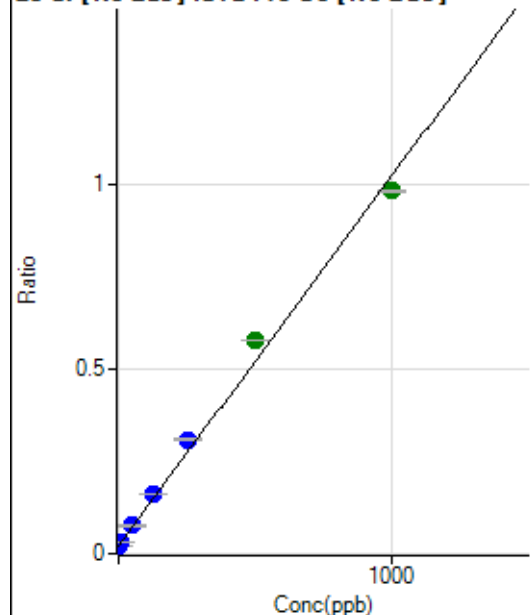
$$R = 0.9999$$

$$DL = 0.1865$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	198155.71	0.0209	P	0.6
2	☐	1.000	0.792	208198.28	0.0217	P	0.2
3	☐	10.000	9.328	292691.90	0.0302	P	0.4
4	☐	50.000	54.684	733904.88	0.0755	P	1.2
5	☐	125.000	139.962	1556633.35	0.1607	P	2.2
6	☐	250.000	286.704	2971125.59	0.3072	P	2.0
7	☐	500.000	556.573	5497850.38	0.5768	A	0.1
8	☐	1000.000	960.440	9254528.94	0.9801	A	0.4
9	☐			937752.85	0.1034	P	2.0

$$y = 9.9874\text{E-}004 * x + 0.0209$$

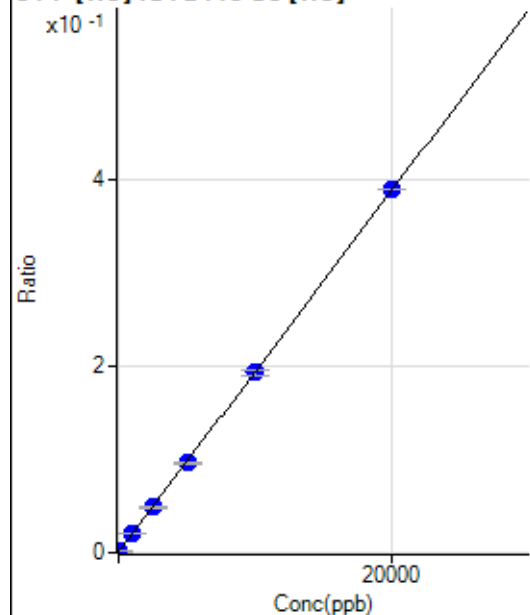
$$R = 0.9968$$

$$DL = 0.404$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-20.912	113.89	0.0003	P	41.5
2	☐	0.000	-18.623	130.56	0.0004	P	57.7
3	☐	0.000	39.535	552.81	0.0015	P	12.5
4	☐	1000.000	996.943	7479.92	0.0200	P	4.0
5	☐	2500.000	2477.096	18128.46	0.0487	P	1.5
6	☐	5000.000	4924.006	36033.26	0.0961	P	1.1
7	☐	10000.000	9927.104	71859.97	0.1931	P	2.5
8	☐	20000.000	20058.462	143192.91	0.3895	P	0.1
9	☐			158.34	0.0004	P	15.4

$$y = 1.9381\text{E-}005 * x + 7.1380\text{E-}004$$

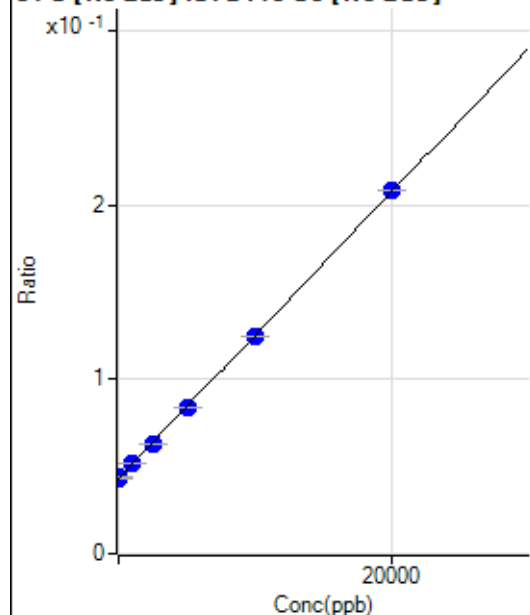
$$R = 1.0000$$

$$DL = 26.68$$

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	-39.665	407760.29	0.0430	P	0.4
2	☐	0.000	2.214	416109.16	0.0433	P	0.4
3	☐	0.000	37.451	422719.32	0.0436	P	0.6
4	☐	1000.000	1037.668	504081.68	0.0519	P	0.8
5	☐	2500.000	2414.779	612235.36	0.0632	P	0.6
6	☐	5000.000	4930.237	811181.33	0.0839	P	0.1
7	☐	10000.000	9936.340	1192010.13	0.1251	P	0.3
8	☐	20000.000	20058.040	1966778.86	0.2083	P	0.1
9	☐			384865.15	0.0424	P	1.1

$$y = 8.2245E-006 * x + 0.0433$$

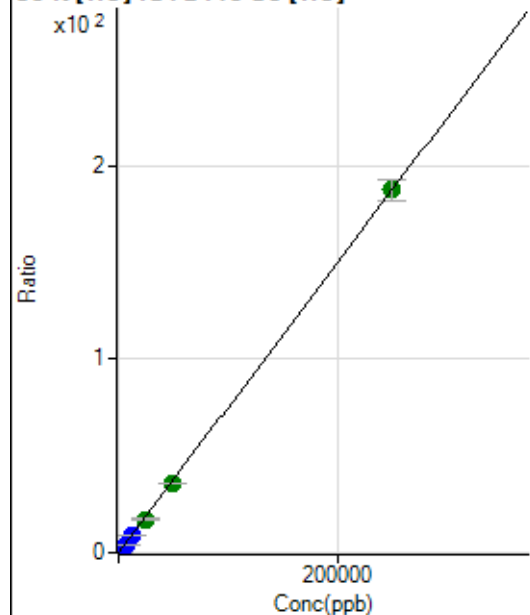
$$R = 1.0000$$

$$DL = 68.27$$

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	19274.36	0.0522	P	2.1
2	☐	50.000	46.097	32066.06	0.0867	P	1.2
3	☐	500.000	482.893	154527.10	0.4136	P	1.1
4	☐	2500.000	2367.545	680908.99	1.8241	P	0.2
5	☐	6250.000	5827.973	1642269.15	4.4138	P	0.3
6	☐	12500.000	11657.696	3288959.60	8.7767	P	0.3
7	☐	25000.000	23176.284	6473919.72	17.3970	A	0.5
8	☐	50000.000	47395.932	13060210.53	35.5227	A	0.8
9	☐	250000.00	250757.21	67243359.14	187.7153	A	5.8

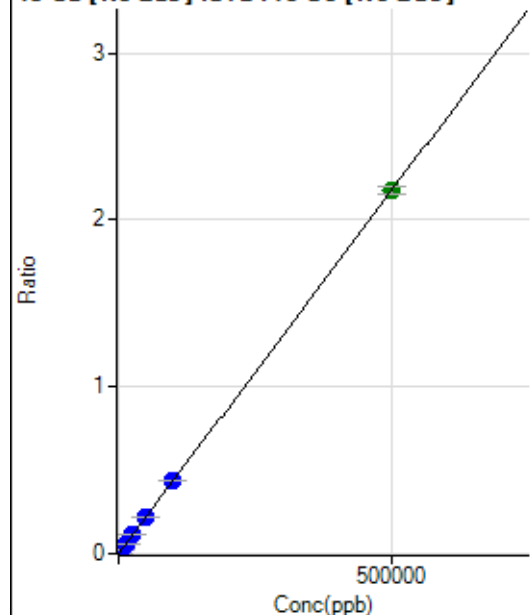
$$y = 7.4839E-004 * x + 0.0522$$

$$R = 0.9999$$

$$DL = 4.326$$

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	191.68	0.0000	P	17.2
2	☐	50.000	53.197	2414.19	0.0003	P	1.7
3	☐	500.000	506.832	21541.40	0.0022	P	2.1
4	☐	5000.000	5048.886	213558.61	0.0220	P	0.7
5	☐	12500.000	12493.329	526496.56	0.0543	P	0.4
6	☐	25000.000	25212.465	1060339.25	0.1096	P	0.3
7	☐	50000.000	50124.833	2077632.40	0.2180	P	0.2
8	☐	100000.00	101120.36	4151636.03	0.4397	P	0.4
9	☐	500000.00	499752.49	19714434.64	2.1729	A	2.2

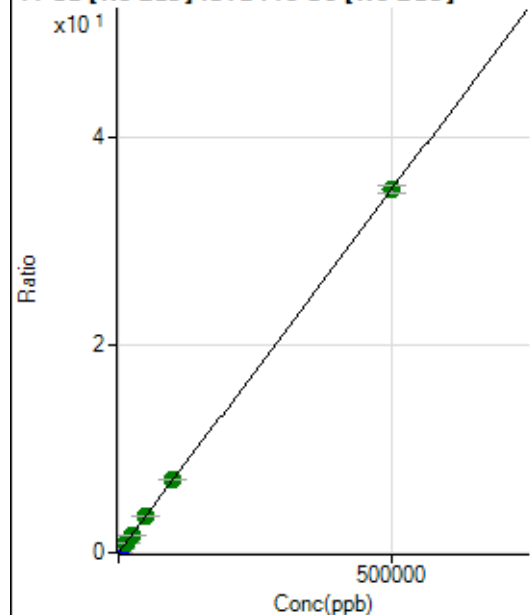
$$y = 4.3480\text{E-}006 * x + 2.0212\text{E-}005$$

$$R = 1.0000$$

$$DL = 2.405$$

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	11004.87	0.0012	P	1.4
2	☐	50.000	54.878	48045.86	0.0050	P	0.2
3	☐	500.000	513.947	360018.05	0.0372	P	0.3
4	☐	5000.000	5048.334	3448624.38	0.3548	P	0.2
5	☐	12500.000	12421.389	8442609.22	0.8714	A	0.1
6	☐	25000.000	25036.116	16973243.61	1.7551	A	0.3
7	☐	50000.000	49781.286	33253916.72	3.4886	A	0.4
8	☐	100000.00	100892.95	66749531.35	7.0693	A	0.1
9	☐	500000.00	499842.94	317705743.2	35.0181	A	2.3

$$y = 7.0056\text{E-}005 * x + 0.0012$$

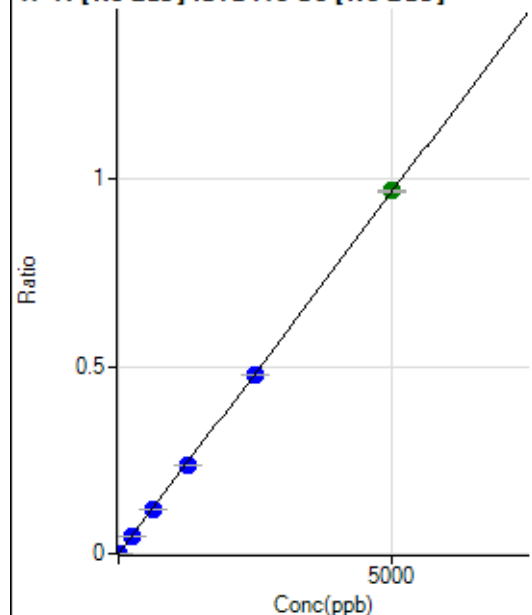
$$R = 1.0000$$

$$DL = 0.6733$$

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	138.89	0.0000	P	30.2
2	☐	0.500	0.496	1058.42	0.0001	P	11.5
3	☐	5.000	5.079	9625.77	0.0010	P	2.0
4	☐	250.000	245.446	459972.02	0.0473	P	0.8
5	☐	625.000	609.733	1138868.05	0.1175	P	0.6
6	☐	1250.000	1229.503	2292149.09	0.2370	P	0.4
7	☐	2500.000	2469.029	4536747.41	0.4759	P	0.2
8	☐	5000.000	5022.745	9141894.30	0.9682	A	0.7
9	☐			4086.82	0.0005	P	5.5

$$y = 1.9276E-004 * x + 1.4648E-005$$

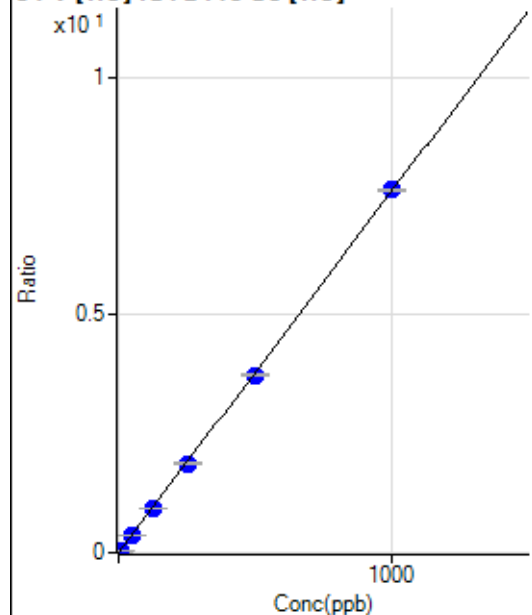
$$R = 1.0000$$

$$DL = 0.06874$$

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	6.67	0.0000	P	86.6
2	☐	0.500	0.561	1581.22	0.0043	P	6.4
3	☐	5.000	5.301	15041.17	0.0403	P	0.5
4	☐	50.000	49.859	141296.93	0.3785	P	0.7
5	☐	125.000	122.981	347369.01	0.9336	P	0.1
6	☐	250.000	247.465	703963.76	1.8786	P	0.7
7	☐	500.000	492.105	1390129.88	3.7357	P	0.3
8	☐	1000.000	1004.839	2804526.38	7.6280	P	0.5
9	☐			856.71	0.0024	P	9.1

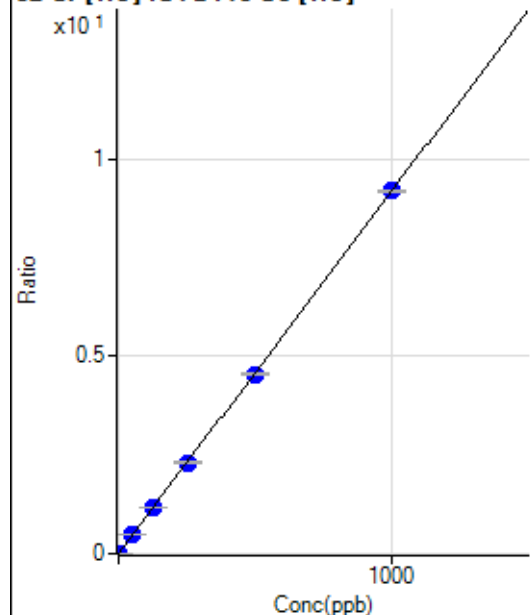
$$y = 0.0076 * x + 1.8033E-005$$

$$R = 1.0000$$

$$DL = 0.006172$$

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	937.83	0.0025	P	2.1
2	☐	0.200	0.201	1621.22	0.0044	P	4.9
3	☐	2.000	2.099	8142.38	0.0218	P	2.3
4	☐	50.000	51.075	175849.65	0.4711	P	0.2
5	☐	125.000	126.215	431749.61	1.1604	P	0.3
6	☐	250.000	251.779	866492.07	2.3123	P	0.6
7	☐	500.000	495.591	1692731.52	4.5489	P	0.5
8	☐	1000.000	1001.554	3378960.19	9.1904	P	0.6
9	☐			126797.32	0.3539	P	5.3

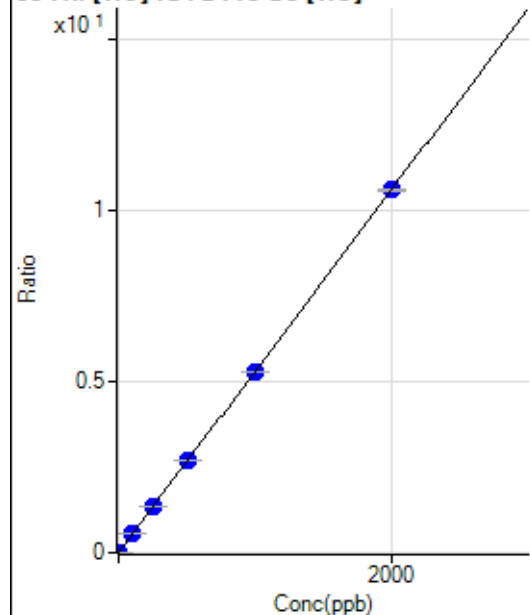
$$y = 0.0092 * x + 0.0025$$

$$R = 1.0000$$

$$DL = 0.01734$$

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	944.49	0.0026	P	4.4
2	☐	0.100	0.048	1041.16	0.0028	P	12.7
3	☐	1.000	1.075	3083.70	0.0083	P	2.9
4	☐	100.000	103.256	205162.29	0.5496	P	0.2
5	☐	250.000	253.798	501245.58	1.3472	P	0.4
6	☐	500.000	507.393	1008285.69	2.6907	P	0.6
7	☐	1000.000	995.523	1963612.73	5.2768	P	0.7
8	☐	2000.000	1999.753	3896153.83	10.5971	P	0.8
9	☐			16443.81	0.0459	P	6.5

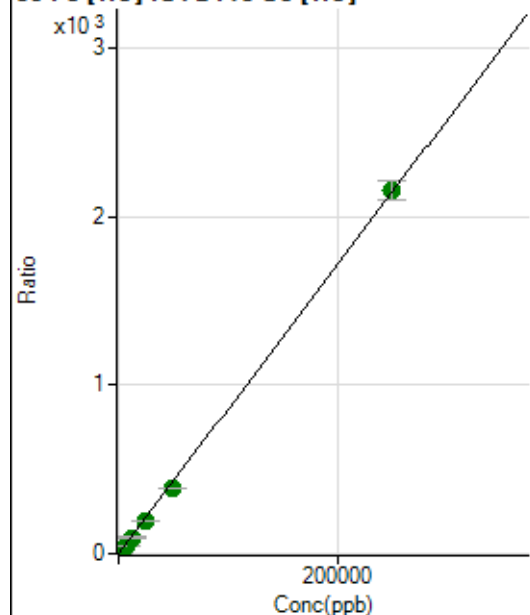
$$y = 0.0053 * x + 0.0026$$

$$R = 1.0000$$

$$DL = 0.06403$$

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	5734.60	0.0155	P	3.6
2	☐	5.000	4.821	21011.81	0.0568	P	1.1
3	☐	50.000	50.035	165880.32	0.4440	P	0.3
4	☐	2500.000	2299.742	7357150.63	19.7091	A	0.8
5	☐	6250.000	5648.963	18004616.14	48.3897	A	0.1
6	☐	12500.000	11289.126	36231539.23	96.6886	A	0.8
7	☐	25000.000	22316.058	71117403.44	191.1164	A	0.7
8	☐	50000.000	44943.605	141503190.2	384.8846	A	1.3
9	☐	250000.00	251357.24	771183557.9	2,152.482	A	5.3

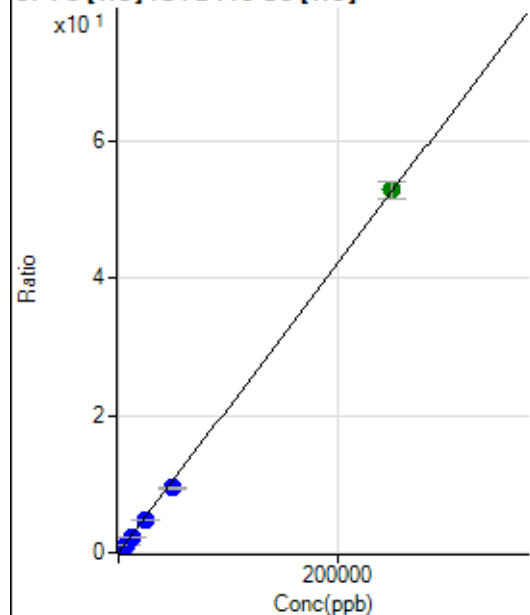
$$y = 0.0086 * x + 0.0155$$

$$R = 0.9997$$

$$DL = 0.1973$$

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	274.09	0.0007	P	16.6
2	☐	5.000	4.835	650.03	0.0018	P	8.5
3	☐	50.000	52.821	4421.15	0.0118	P	2.6
4	☐	2500.000	2307.993	181188.34	0.4854	P	0.5
5	☐	6250.000	5664.044	442802.03	1.1901	P	0.5
6	☐	12500.000	11268.274	886931.68	2.3669	P	0.7
7	☐	25000.000	22342.909	1746092.66	4.6923	P	0.6
8	☐	50000.000	44671.039	3448965.44	9.3808	P	0.7
9	☐	250000.00	251409.65	18916301.58	52.7922	A	4.9

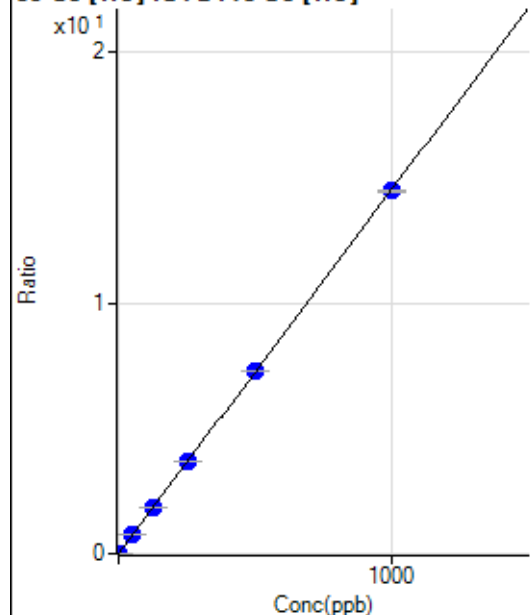
$$y = 2.0998E-004 * x + 7.4286E-004$$

$$R = 0.9997$$

$$DL = 1.764$$

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	133.34	0.0004	P	11.2
2	☐	0.100	0.108	715.59	0.0019	P	2.7
3	☐	1.000	1.088	6036.89	0.0162	P	1.3
4	☐	50.000	52.585	285164.78	0.7639	P	0.5
5	☐	125.000	128.954	696840.08	1.8728	P	0.3
6	☐	250.000	255.225	1388859.72	3.7064	P	0.9
7	☐	500.000	501.384	2709355.93	7.2807	P	0.4
8	☐	1000.000	997.378	5324728.05	14.4828	P	0.6
9	☐			13284.00	0.0371	P	4.3

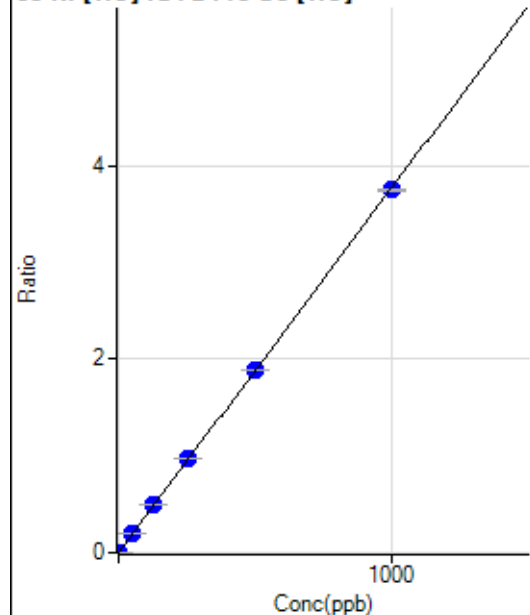
$$y = 0.0145 * x + 3.6127E-004$$

$$R = 1.0000$$

$$DL = 0.008367$$

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	50.00	0.0001	P	11.3
2	☐	0.100	0.113	207.78	0.0006	P	9.7
3	☐	1.000	1.117	1624.56	0.0043	P	2.4
4	☐	50.000	53.158	74878.91	0.2006	P	0.6
5	☐	125.000	130.909	183725.80	0.4938	P	0.6
6	☐	250.000	258.497	365329.33	0.9749	P	0.7
7	☐	500.000	503.229	706206.57	1.8978	P	0.0
8	☐	1000.000	995.365	1380032.58	3.7536	P	0.7
9	☐			36185.84	0.1010	P	5.5

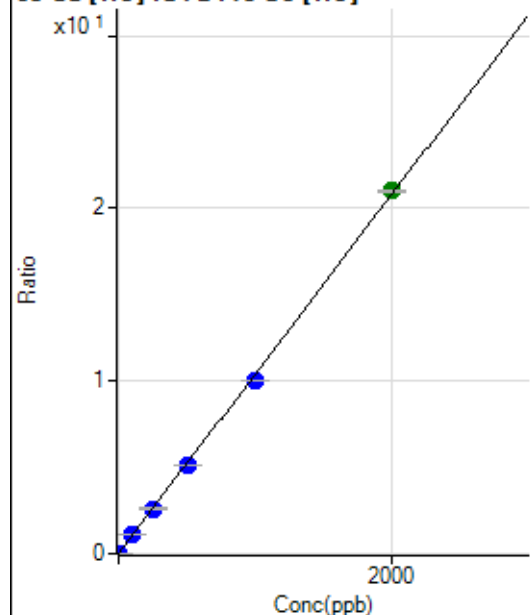
$$y = 0.0038 * x + 1.3548E-004$$

$$R = 0.9999$$

$$DL = 0.01215$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	2654.73	0.0072	P	1.6
2	☐	0.200	0.141	3200.40	0.0087	P	1.1
3	☐	2.000	2.086	10789.68	0.0289	P	1.2
4	☐	100.000	102.281	399507.15	1.0702	P	0.4
5	☐	250.000	250.760	972386.76	2.6134	P	0.5
6	☐	500.000	492.447	1920621.38	5.1253	P	0.7
7	☐	1000.000	960.688	3718183.07	9.9919	P	0.3
8	☐	2000.000	2021.335	7726622.80	21.0155	A	0.6
9	☐			14794.36	0.0413	P	4.2

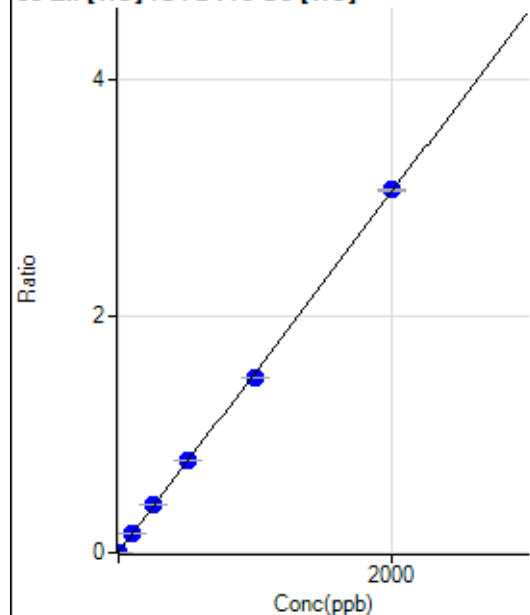
$$y = 0.0104 * x + 0.0072$$

$$R = 0.9997$$

$$DL = 0.03228$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1030.05	0.0028	P	9.8
2	☒	0.200		1267.85	0.0034	P	3.2
3	☐	2.000	2.394	2408.01	0.0064	P	6.0
4	☐	100.000	107.647	62381.70	0.1671	P	1.0
5	☐	250.000	260.969	149263.64	0.4012	P	0.7
6	☐	500.000	506.913	291016.43	0.7766	P	0.7
7	☐	1000.000	969.735	551890.88	1.4831	P	0.6
8	☐	2000.000	2011.651	1130043.93	3.0736	P	0.5
9	☐			16130.18	0.0450	P	4.9

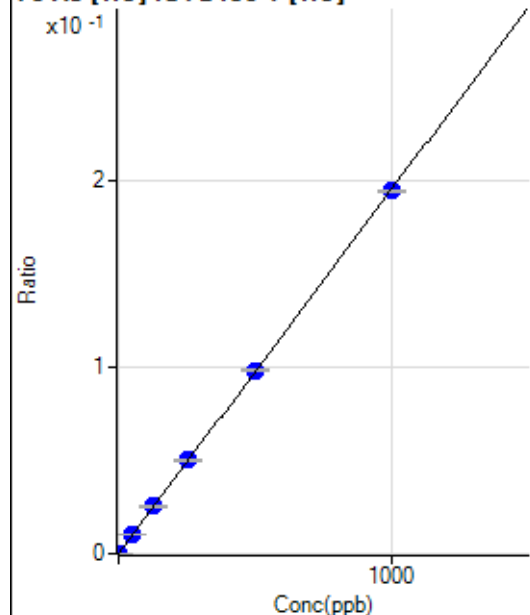
$$y = 0.0015 * x + 0.0028$$

$$R = 0.9998$$

$$DL = 0.5384$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17.28	0.0000	P	38.3
2	☐	0.100	0.091	48.76	0.0000	P	10.2
3	☐	1.000	1.119	411.12	0.0002	P	3.0
4	☐	50.000	51.558	18271.44	0.0101	P	1.7
5	☐	125.000	129.447	45186.04	0.0252	P	0.6
6	☐	250.000	256.350	90122.49	0.0500	P	0.5
7	☐	500.000	503.384	174958.87	0.0981	P	1.1
8	☐	1000.000	996.087	342271.31	0.1941	P	0.4
9	☐			169.14	0.0001	P	17.1

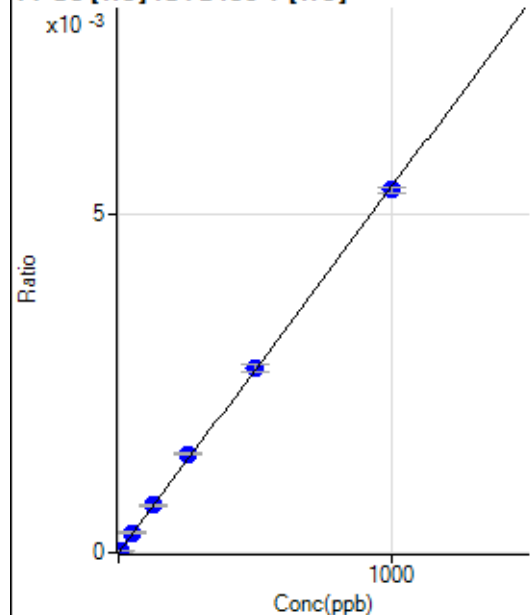
$$y = 1.9483\text{E-}004 * x + 9.6904\text{E-}006$$

$$R = 1.0000$$

$$DL = 0.05716$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	0.500	0.461	4.44	0.0000	P	114.
3	☐	5.000	4.324	42.22	0.0000	P	42.7
4	☐	50.000	53.813	527.80	0.0003	P	13.2
5	☐	125.000	130.248	1258.96	0.0007	P	3.7
6	☐	250.000	269.478	2623.61	0.0015	P	1.0
7	☐	500.000	504.823	4858.66	0.0027	P	3.8
8	☐	1000.000	991.876	9438.75	0.0054	P	1.5
9	☐			6.67	0.0000	P	54.2

$$y = 5.3962\text{E-}006 * x + 0.0000\text{E+}000$$

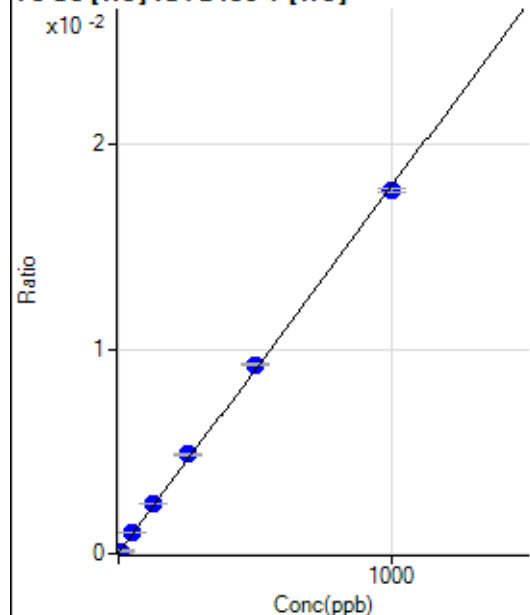
$$R = 0.9998$$

$$DL = 0$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	55.55	0.0000	P	11.1
2	☐	0.500	0.800	80.86	0.0000	P	9.9
3	☐	5.000	6.027	251.24	0.0001	P	7.1
4	☐	50.000	57.133	1919.90	0.0011	P	1.2
5	☐	125.000	134.398	4375.39	0.0024	P	1.9
6	☐	250.000	268.382	8746.52	0.0048	P	1.0
7	☐	500.000	512.939	16479.82	0.0092	P	1.0
8	☐	1000.000	987.398	31306.57	0.0178	P	1.0
9	☐			83.33	0.0000	P	11.5

$$y = 1.7947E-005 * x + 3.1082E-005$$

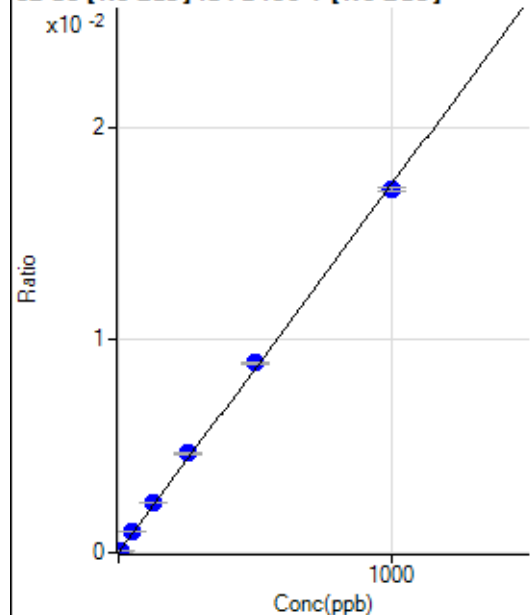
$$R = 0.9997$$

$$DL = 0.5742$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	106.99	0.0000	P	75.4
2	☒	0.500		97.03	0.0000	P	50.5
3	☐	5.000	5.464	1464.49	0.0001	P	4.7
4	☐	50.000	56.147	14140.01	0.0010	P	0.6
5	☐	125.000	136.322	33913.99	0.0024	P	1.5
6	☐	250.000	270.157	67490.54	0.0047	P	1.1
7	☐	500.000	515.715	126693.18	0.0089	P	0.7
8	☐	1000.000	985.378	238020.63	0.0171	P	0.9
9	☐			245.04	0.0000	P	42.4

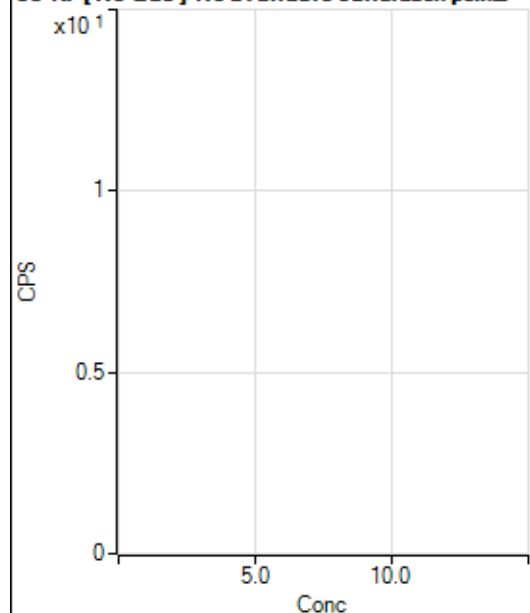
$$y = 1.7297E-005 * x + 7.5275E-006$$

$$R = 0.9996$$

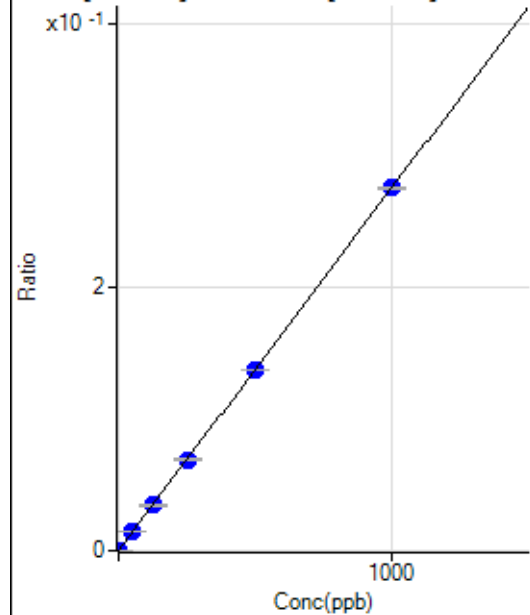
$$DL = 0.9847$$

Weight: <None>

Min Conc: 0

83 Kr [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			1377.87		P	9.0
2	☐			1529.00		P	1.8
3	☐			1482.32		P	4.6
4	☐			1444.54		P	2.6
5	☐			1490.10		P	6.2
6	☐			1431.21		P	2.1
7	☐			1502.33		P	1.7
8	☐			1392.31		P	4.1
9	☐			1442.31		P	7.5

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	2283.61	0.0002	P	8.6
2	☐	0.100	0.083	2614.24	0.0002	P	4.4
3	☐	1.000	0.985	6198.80	0.0004	P	4.5
4	☐	50.000	50.303	202289.61	0.0140	P	1.0
5	☐	125.000	125.049	495544.56	0.0346	P	1.8
6	☐	250.000	251.348	999508.67	0.0693	P	1.3
7	☐	500.000	497.627	1945227.84	0.1371	P	0.8
8	☐	1000.000	1000.828	3845918.23	0.2755	P	0.5
9	☐			16999.52	0.0013	P	3.8

$$y = 2.7513E-004 * x + 1.6084E-004$$

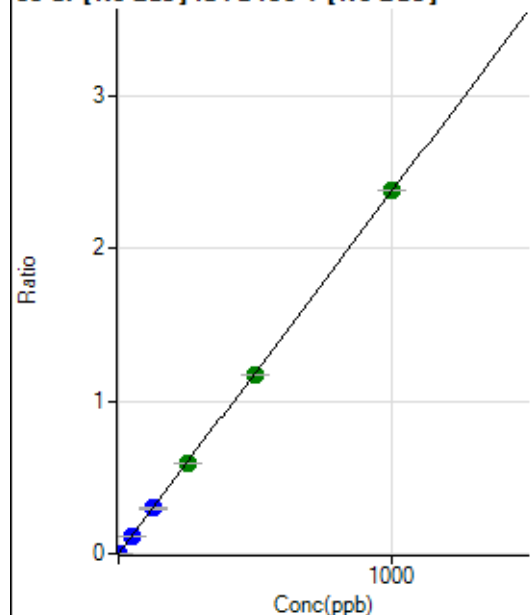
$$R = 1.0000$$

$$DL = 0.1503$$

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	180.56	0.0000	P	22.7
2	☐	0.100	0.107	3811.78	0.0003	P	6.2
3	☐	1.000	1.030	35283.35	0.0025	P	0.8
4	☐	50.000	50.303	1725435.65	0.1194	P	0.3
5	☐	125.000	125.162	4259827.87	0.2971	P	0.7
6	☐	250.000	248.781	8516831.00	0.5906	A	0.1
7	☐	500.000	495.282	16685078.50	1.1757	A	0.1
8	☐	1000.000	1002.628	33223588.24	2.3801	A	0.1
9	☐			132495.96	0.0099	P	1.9

$$y = 0.0024 * x + 1.2713E-005$$

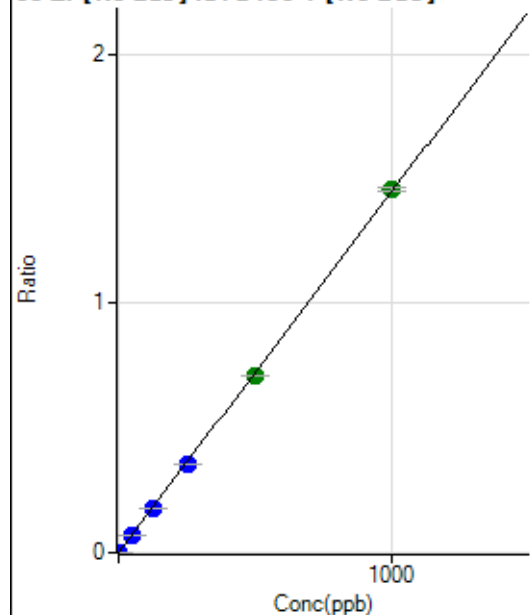
$$R = 1.0000$$

$$DL = 0.003643$$

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	811.17	0.0001	P	8.4
2	☐	0.100	0.079	2433.64	0.0002	P	4.3
3	☐	1.000	0.885	19191.31	0.0013	P	0.8
4	☐	50.000	49.168	1027805.56	0.0711	P	0.3
5	☐	125.000	122.819	2546401.86	0.1776	P	0.5
6	☐	250.000	245.994	5129308.62	0.3557	P	0.2
7	☐	500.000	491.013	10074342.41	0.7099	A	0.6
8	☐	1000.000	1005.809	20297347.85	1.4541	A	0.9
9	☐			5715.26	0.0004	P	3.0

$$y = 0.0014 * x + 5.7113E-005$$

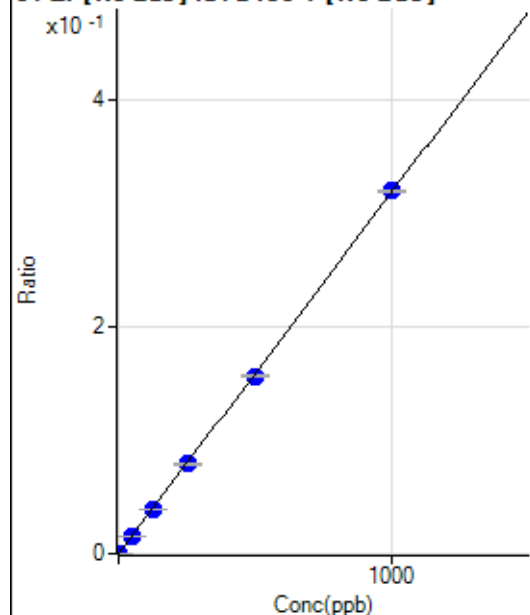
$$R = 0.9999$$

$$DL = 0.009938$$

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	172.23	0.0000	P	7.8
2	☐	0.100	0.089	575.04	0.0000	P	10.7
3	☐	1.000	0.858	4089.66	0.0003	P	1.2
4	☐	50.000	49.754	228640.61	0.0158	P	0.1
5	☐	125.000	123.919	564802.68	0.0394	P	0.7
6	☐	250.000	247.811	1135920.19	0.0788	P	0.5
7	☐	500.000	491.691	2217751.31	0.1563	P	1.0
8	☐	1000.000	1004.849	4458075.58	0.3194	P	0.2
9	☐			1216.77	0.0001	P	9.7

$$y = 3.1781\text{E-}004 * x + 1.2131\text{E-}005$$

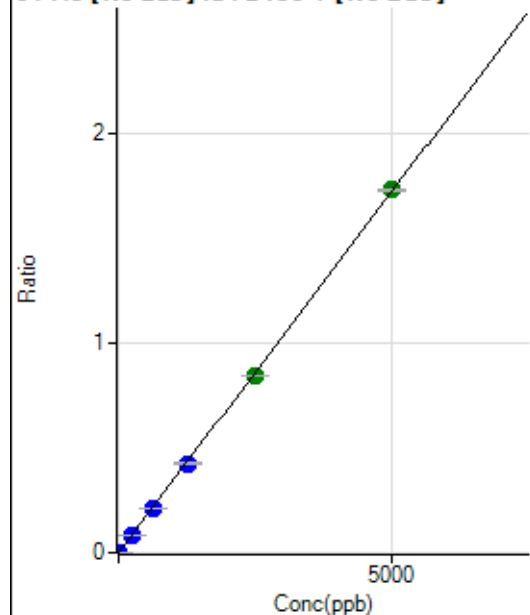
$$R = 0.9999$$

$$DL = 0.008904$$

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	327.80	0.0000	P	11.5
2	☐	0.500	0.480	2675.36	0.0002	P	6.1
3	☐	5.000	4.807	24023.76	0.0017	P	3.8
4	☐	250.000	247.106	1226591.32	0.0849	P	0.9
5	☐	625.000	614.833	3027975.18	0.2112	P	0.7
6	☐	1250.000	1237.890	6131830.78	0.4252	P	0.8
7	☐	2500.000	2453.315	11958831.95	0.8427	A	0.5
8	☐	5000.000	5027.786	24106146.89	1.7269	A	0.5
9	☐			23280.90	0.0017	P	1.0

$$y = 3.4348\text{E-}004 * x + 2.3080\text{E-}005$$

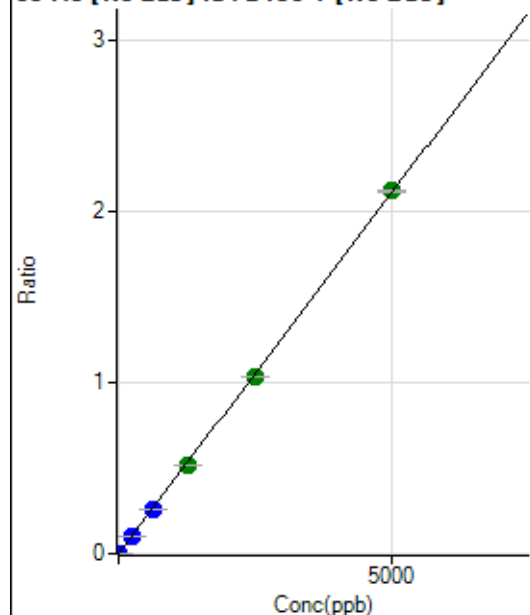
$$R = 0.9999$$

$$DL = 0.02325$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	119.45	0.0000	P	8.4
2	☐	0.500	0.509	3178.27	0.0002	P	5.2
3	☐	5.000	4.967	30174.57	0.0021	P	2.4
4	☐	250.000	246.254	1500075.35	0.1038	P	1.2
5	☐	625.000	613.132	3706002.12	0.2585	P	1.2
6	☐	1250.000	1230.301	7479988.80	0.5187	A	0.5
7	☐	2500.000	2448.238	14647826.89	1.0322	A	0.6
8	☐	5000.000	5032.477	29615940.25	2.1217	A	0.7
9	☐			35194.45	0.0026	P	0.9

$$y = 4.2159\text{E-}004 * x + 8.4140\text{E-}006$$

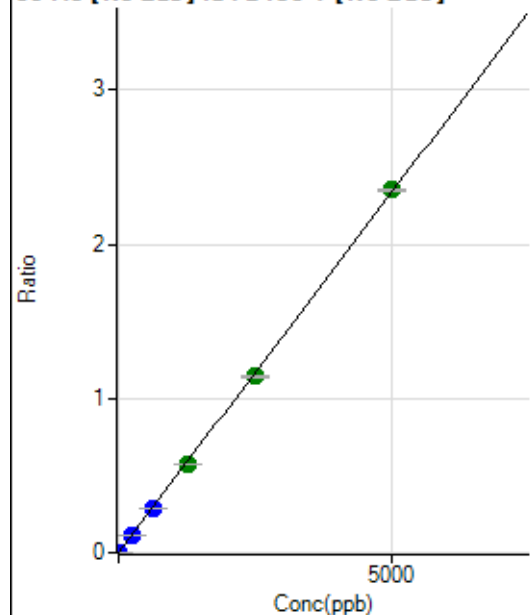
$$R = 0.9999$$

$$DL = 0.005057$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	219.46	0.0000	P	21.3
2	☐	0.500	0.495	3511.70	0.0002	P	4.2
3	☐	5.000	5.029	33935.96	0.0024	P	1.4
4	☐	250.000	244.700	1651806.10	0.1143	P	0.3
5	☐	625.000	609.380	4081471.62	0.2847	P	0.4
6	☐	1250.000	1220.988	8225637.16	0.5704	A	0.3
7	☐	2500.000	2444.991	16208722.58	1.1422	A	0.8
8	☐	5000.000	5036.975	32844485.11	2.3530	A	0.9
9	☐			53540.36	0.0040	P	1.9

$$y = 4.6714\text{E-}004 * x + 1.5463\text{E-}005$$

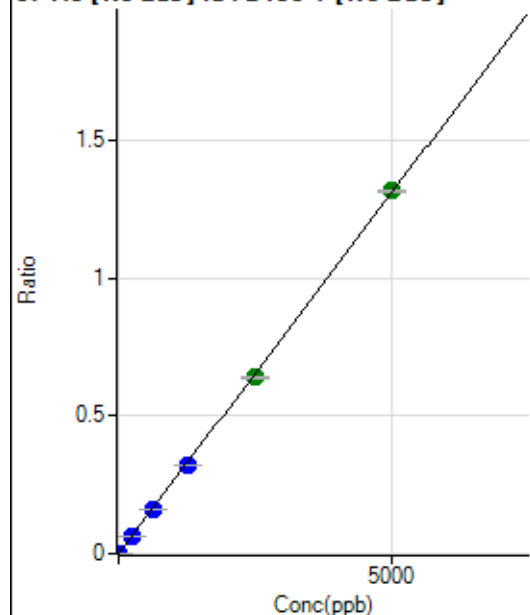
$$R = 0.9999$$

$$DL = 0.0211$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	47.22	0.0000	P	54.1
2	☐	0.500	0.545	2083.58	0.0001	P	10.7
3	☐	5.000	5.002	18854.87	0.0013	P	3.5
4	☐	250.000	245.505	929387.61	0.0643	P	0.5
5	☐	625.000	614.125	2306769.65	0.1609	P	1.4
6	☐	1250.000	1230.427	4648618.33	0.3224	P	0.8
7	☐	2500.000	2451.850	9115844.30	0.6424	A	1.0
8	☐	5000.000	5030.552	18397383.74	1.3180	A	0.3
9	☐			22268.06	0.0017	P	1.1

$$y = 2.6199\text{E-}004 * x + 3.3261\text{E-}006$$

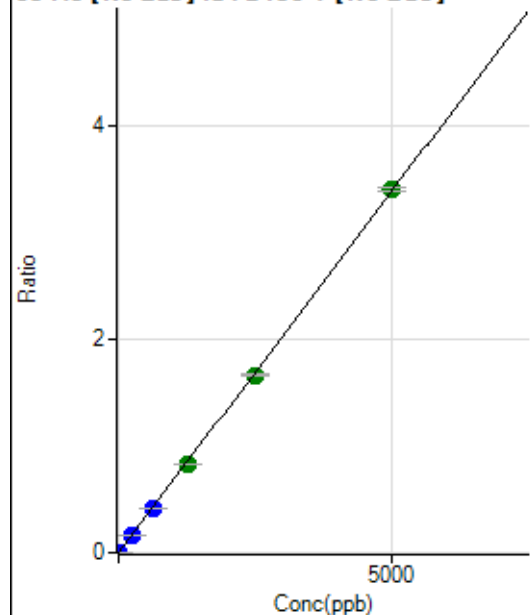
$$R = 0.9999$$

$$DL = 0.02059$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	158.34	0.0000	P	19.1
2	☐	0.500	0.504	5001.06	0.0004	P	2.1
3	☐	5.000	5.076	49342.21	0.0034	P	2.6
4	☐	250.000	246.626	2405896.99	0.1665	P	0.8
5	☐	625.000	613.463	5938031.08	0.4142	P	0.5
6	☐	1250.000	1230.927	11983927.61	0.8310	A	0.8
7	☐	2500.000	2462.493	23592480.39	1.6625	A	0.8
8	☐	5000.000	5025.132	47355438.56	3.3926	A	0.9
9	☐			55784.94	0.0042	P	1.5

$$y = 6.7512\text{E-}004 * x + 1.1152\text{E-}005$$

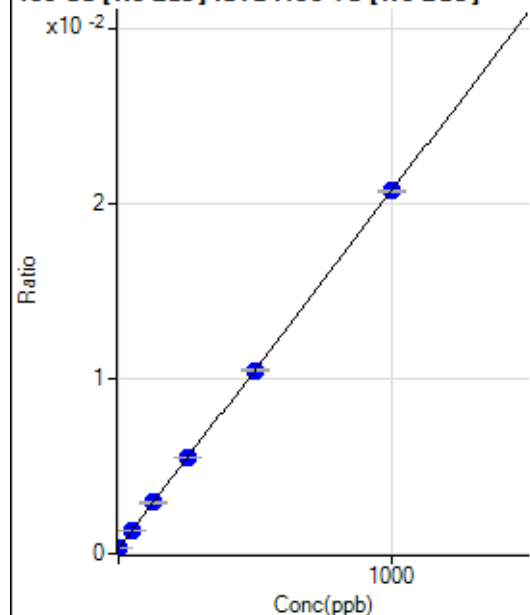
$$R = 1.0000$$

$$DL = 0.009455$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	5295.67	0.0003	P	3.9
2	☐	0.100	0.270	5328.98	0.0003	P	1.0
3	☐	1.000	0.327	5398.48	0.0003	P	1.6
4	☐	50.000	51.405	23486.86	0.0014	P	1.7
5	☐	125.000	129.116	50493.66	0.0029	P	2.5
6	☐	250.000	254.605	94607.30	0.0055	P	0.9
7	☐	500.000	497.267	177561.89	0.0105	P	0.7
8	☐	1000.000	999.631	348593.83	0.0207	P	0.8
9	☐			4739.86	0.0003	P	1.7

$$y = 2.0415\text{E-}005 * x + 3.1135\text{E-}004$$

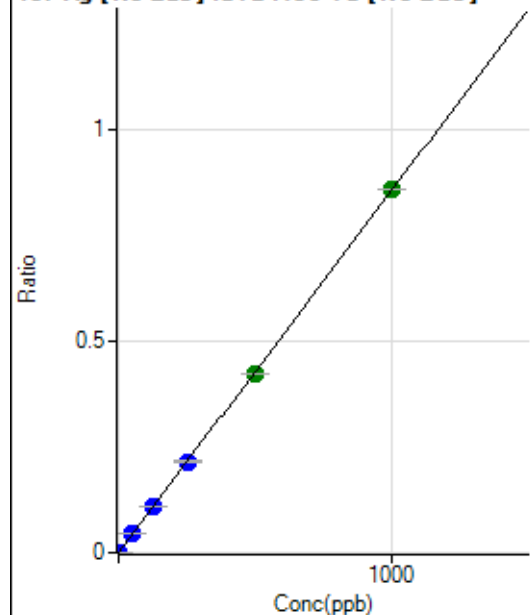
$$R = 1.0000$$

$$DL = 1.799$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	141.67	0.0000	P	17.5
2	☐	0.100	0.142	2180.83	0.0001	P	9.8
3	☐	1.000	1.067	15659.38	0.0009	P	0.4
4	☐	50.000	51.764	765542.88	0.0444	P	0.7
5	☐	125.000	126.840	1861981.68	0.1087	P	0.9
6	☐	250.000	252.004	3707725.47	0.2159	P	0.8
7	☐	500.000	494.159	7185133.06	0.4234	A	0.6
8	☐	1000.000	1002.101	14445207.79	0.8585	A	0.1
9	☐			2669.82	0.0002	P	2.8

$$y = 8.5673\text{E-}004 * x + 8.3278\text{E-}006$$

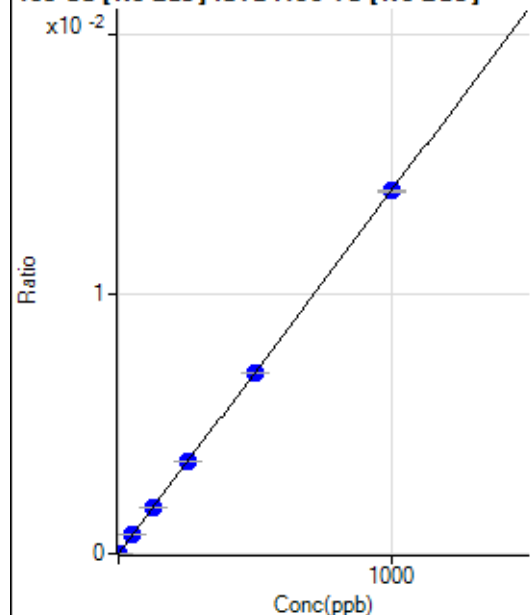
$$R = 1.0000$$

$$DL = 0.005113$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	18.06	0.0000	P	35.4
2	☐	0.100	0.084	37.50	0.0000	P	11.1
3	☐	1.000	0.974	248.62	0.0000	P	17.6
4	☐	50.000	51.823	12507.12	0.0007	P	1.3
5	☐	125.000	129.148	30917.37	0.0018	P	0.2
6	☐	250.000	254.050	60940.34	0.0035	P	1.3
7	☐	500.000	497.836	117998.61	0.0070	P	0.6
8	☐	1000.000	999.460	234835.36	0.0140	P	0.4
9	☐			59.72	0.0000	P	36.0

$$y = 1.3964\text{E-}005 * x + 1.0619\text{E-}006$$

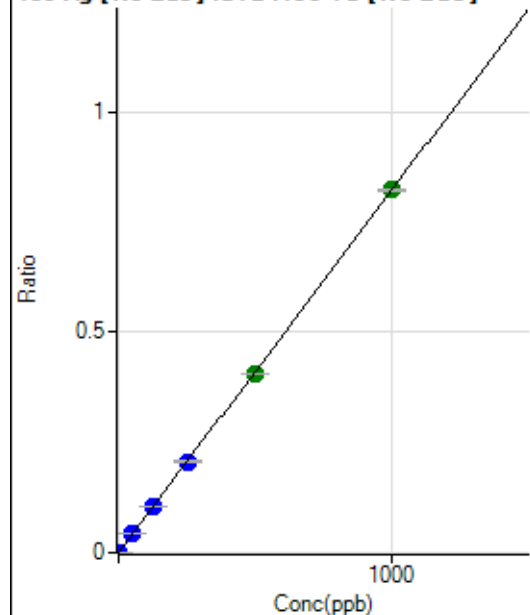
$$R = 1.0000$$

$$DL = 0.08077$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	86.12	0.0000	P	5.5
2	☐	0.100	0.143	2064.13	0.0001	P	3.7
3	☐	1.000	1.062	14908.45	0.0009	P	2.0
4	☐	50.000	51.513	731110.02	0.0424	P	0.7
5	☐	125.000	126.265	1778830.42	0.1038	P	1.4
6	☐	250.000	251.997	3558377.21	0.2072	P	0.4
7	☐	500.000	495.125	6909236.27	0.4071	A	0.1
8	☐	1000.000	1001.705	13858030.00	0.8236	A	0.6
9	☐			2391.97	0.0002	P	3.3

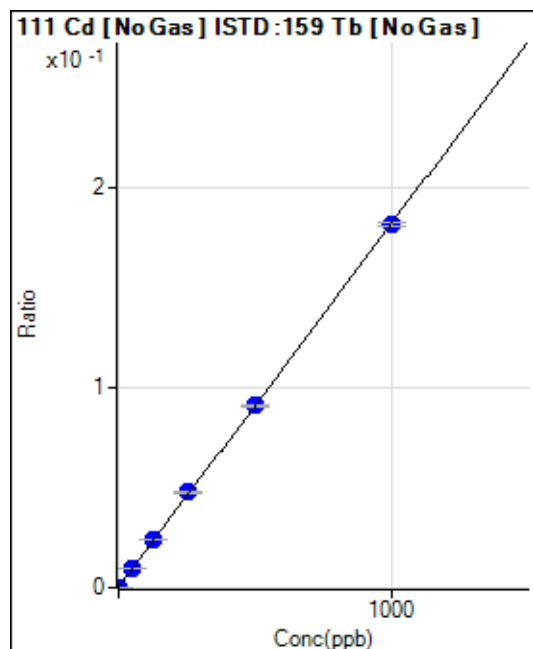
$$y = 8.2224\text{E-}004 * x + 5.0628\text{E-}006$$

$$R = 1.0000$$

$$DL = 0.001015$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3722.10	0.0002	P	3.6
2	☐	0.100	0.125	4060.99	0.0002	P	0.9
3	☐	1.000	1.062	6991.49	0.0004	P	0.8
4	☐	50.000	52.781	169403.23	0.0098	P	1.0
5	☐	125.000	130.598	410578.70	0.0240	P	1.0
6	☐	250.000	260.546	817265.79	0.0476	P	0.8
7	☐	500.000	500.535	1548119.03	0.0912	P	1.2
8	☐	1000.000	996.257	3051352.96	0.1814	P	0.9
9	☐			4017.81	0.0003	P	1.9

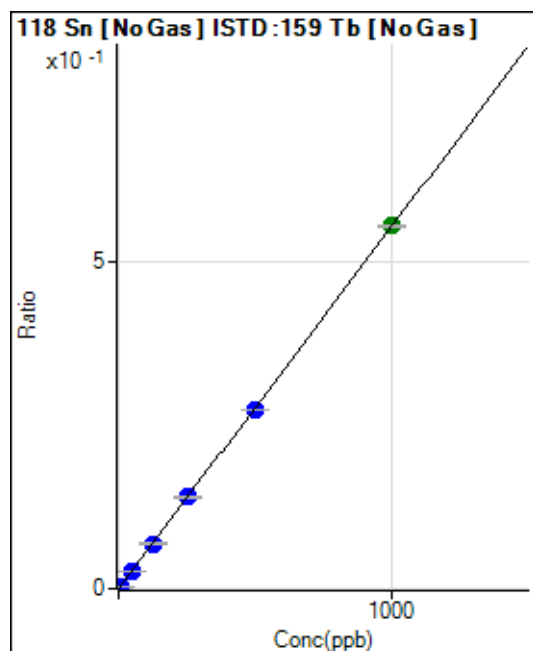
$$y = 1.8182\text{E-}004 * x + 2.1883\text{E-}004$$

$$R = 0.9999$$

$$DL = 0.1285$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	989.09	0.0001	P	5.3
2	☐	0.500	0.491	5551.31	0.0003	P	5.7
3	☐	5.000	5.237	50196.13	0.0030	P	2.0
4	☐	50.000	50.028	479035.36	0.0278	P	0.5
5	☐	125.000	124.176	1178872.47	0.0688	P	1.0
6	☐	250.000	252.665	2403298.67	0.1399	P	0.4
7	☐	500.000	493.929	4641683.09	0.2735	P	0.8
8	☐	1000.000	1002.470	9339097.43	0.5551	A	0.6
9	☐			4614.85	0.0003	P	1.9

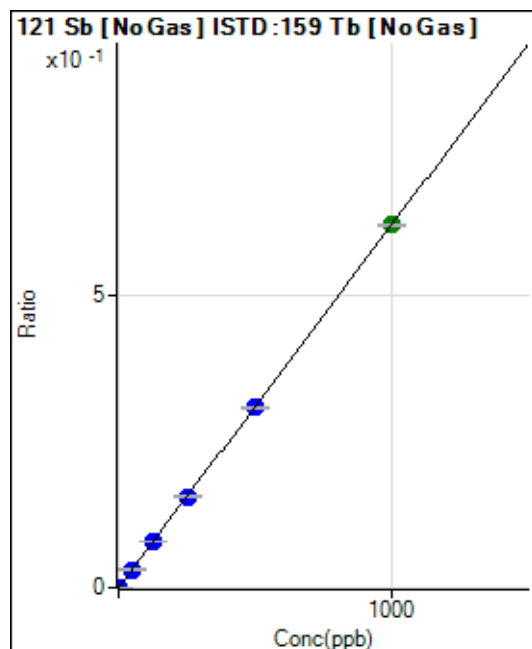
$$y = 5.5363\text{E-}004 * x + 5.8152\text{E-}005$$

$$R = 1.0000$$

$$DL = 0.01662$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.56	0.0000	P	6.0
2	☐	0.200	0.213	2303.08	0.0001	P	4.5
3	☐	2.000	2.025	21425.31	0.0013	P	2.7
4	☐	50.000	50.335	539595.71	0.0313	P	1.2
5	☐	125.000	126.276	1343743.93	0.0784	P	1.0
6	☐	250.000	251.638	2683973.97	0.1563	P	0.4
7	☐	500.000	497.496	5243445.08	0.3090	P	1.2
8	☐	1000.000	1000.666	10456513.08	0.6215	A	0.2
9	☐			10543.28	0.0007	P	2.4

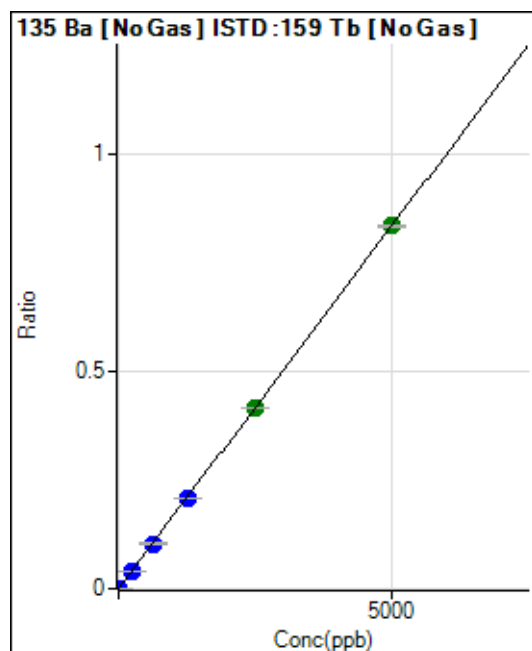
$$y = 6.2105\text{E-}004 * x + 4.7364\text{E-}006$$

$$R = 1.0000$$

$$DL = 0.001382$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.56	0.0000	P	16.1
2	☐	1.000	1.016	2975.44	0.0002	P	3.0
3	☐	10.000	10.653	30247.79	0.0018	P	0.9
4	☐	250.000	250.749	720923.25	0.0418	P	0.2
5	☐	625.000	620.111	1769522.93	0.1033	P	1.9
6	☐	1250.000	1246.612	3565661.06	0.2076	P	0.2
7	☐	2500.000	2493.314	7047367.69	0.4153	A	0.7
8	☐	5000.000	5004.762	14024658.99	0.8335	A	0.5
9	☐			3061.58	0.0002	P	1.7

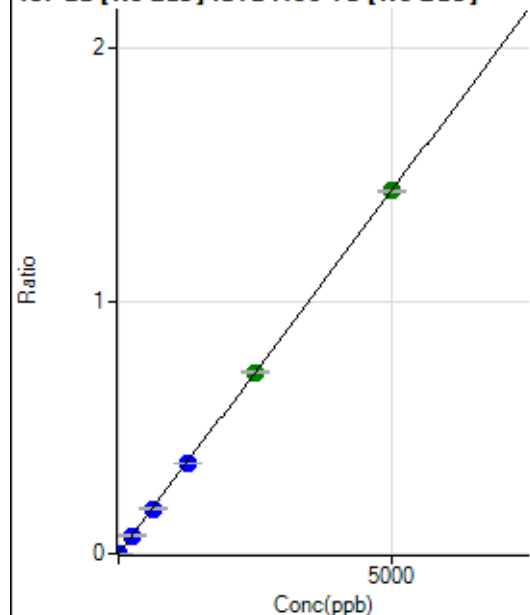
$$y = 1.6655\text{E-}004 * x + 7.6761\text{E-}006$$

$$R = 1.0000$$

$$DL = 0.0222$$

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	138.89	0.0000	P	27.2
2	☐	1.000	1.053	5226.20	0.0003	P	5.2
3	☐	10.000	10.265	50214.01	0.0030	P	1.5
4	☐	250.000	250.723	1243656.55	0.0721	P	1.0
5	☐	625.000	621.281	3059084.12	0.1786	P	1.2
6	☐	1250.000	1247.123	6155047.75	0.3584	P	0.5
7	☐	2500.000	2502.374	12204280.05	0.7191	A	0.6
8	☐	5000.000	4999.961	24176065.30	1.4369	A	0.3
9	☐			5442.97	0.0003	P	4.4

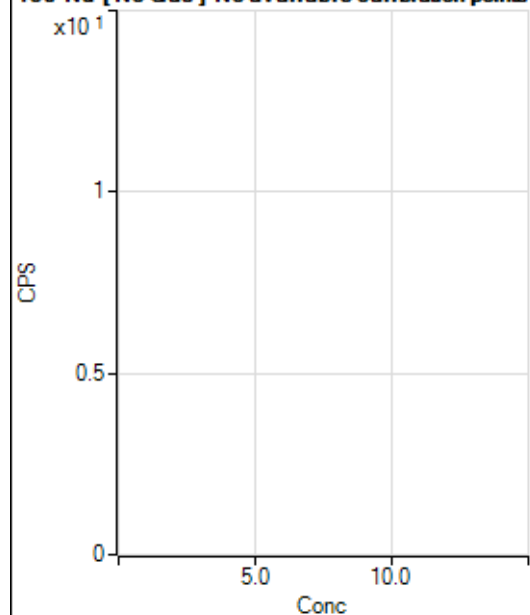
$$y = 2.8738E-004 * x + 8.1676E-006$$

$$R = 1.0000$$

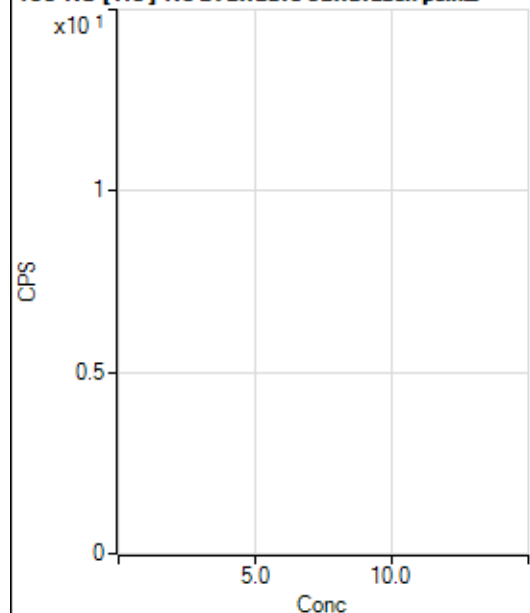
$$DL = 0.02318$$

Weight: <None>

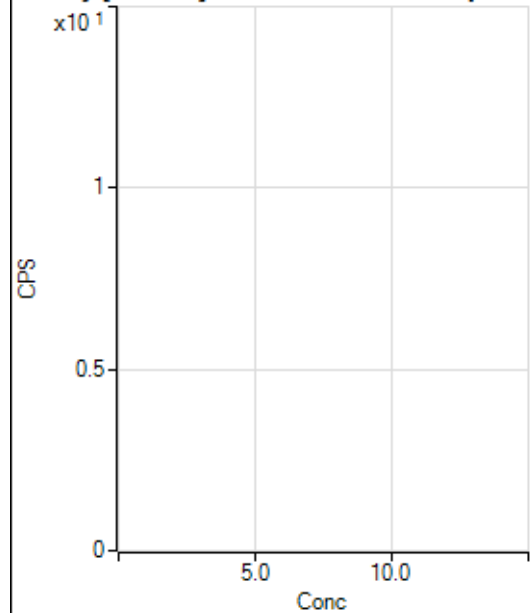
Min Conc: 0

150 Nd [No Gas] No available calibration points

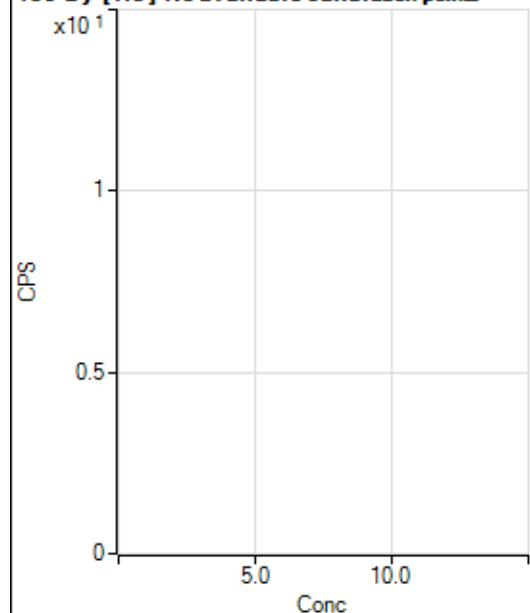
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			13.33		P	50.0
2	☐			4.44		P	173.
3	☐			11.11		P	34.6
4	☐			66.67		P	34.6
5	☐			146.67		P	4.5
6	☐			282.23		P	15.2
7	☐			584.48		P	16.6
8	☐			1008.96		P	5.3
9	☐			113.34		P	21.2

150 Nd [He] No available calibration points

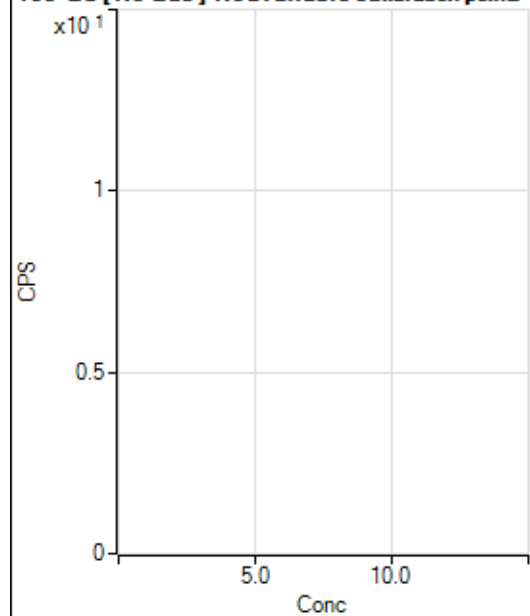
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			7.78		P	49.5
2	☐			5.55		P	69.3
3	☐			10.00		P	100.
4	☐			8.89		P	43.3
5	☐			10.00		P	57.7
6	☐			27.78		P	25.0
7	☐			64.45		P	10.8
8	☐			83.33		P	24.3
9	☐			51.11		P	15.1

156 Dy [No Gas] No available calibration points

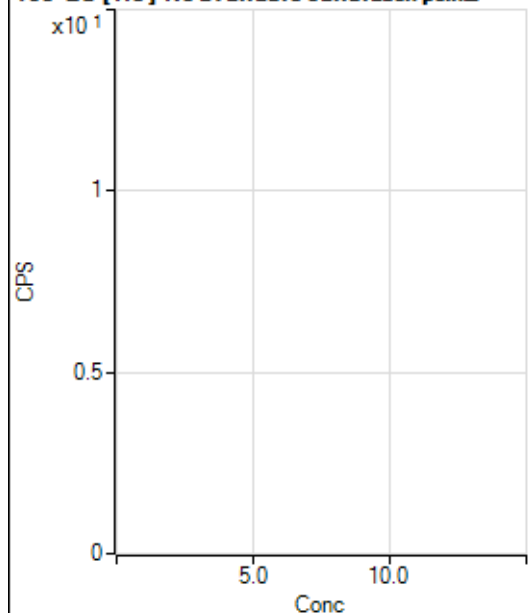
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			94.45		P	51.7
2	☐			77.78		P	34.4
3	☐			102.78		P	33.8
4	☐			102.78		P	23.4
5	☐			102.78		P	26.1
6	☐			122.23		P	10.4
7	☐			175.01		P	29.0
8	☐			288.91		P	23.5
9	☐			116.67		P	7.1

156 Dy [He] No available calibration points

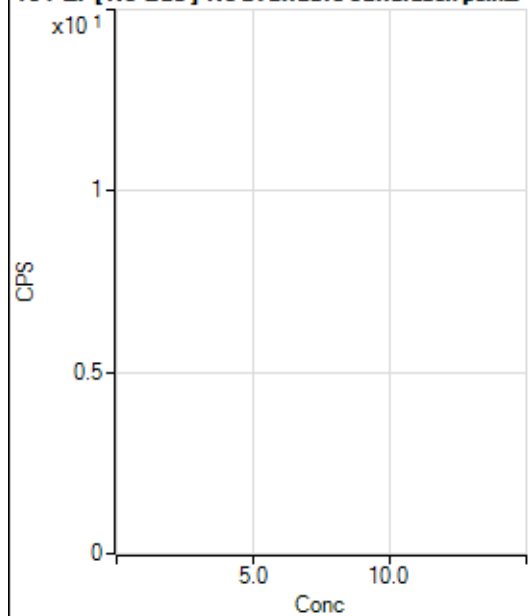
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			16.67		P	40.0
2	☐			23.33		P	51.5
3	☐			30.00		P	29.4
4	☐			36.67		P	24.0
5	☐			42.22		P	35.6
6	☐			97.78		P	3.9
7	☐			140.01		P	18.0
8	☐			248.90		P	12.4
9	☐			42.22		P	12.1

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

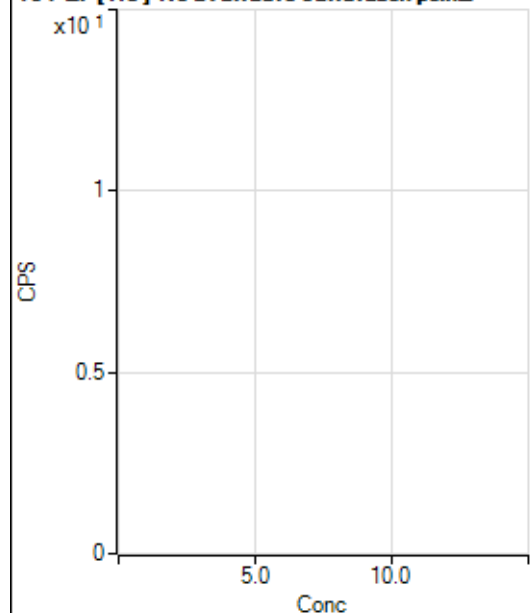
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			111.12		P	49.9
2	☐			136.12		P	25.5
3	☐			97.23		P	9.9
4	☐			116.67		P	53.9
5	☐			100.00		P	25.0
6	☐			91.67		P	9.1
7	☐			119.45		P	22.4
8	☐			150.01		P	27.8
9	☐			119.45		P	24.5

160 Gd [He] No available calibration points

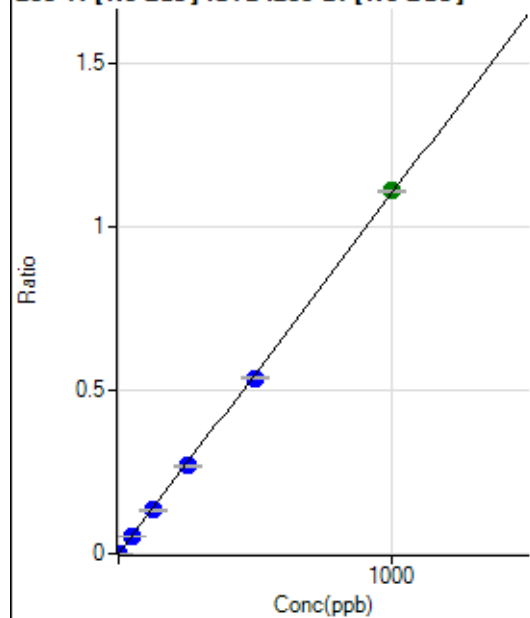
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			210.00		P	12.7
2	☐			240.01		P	10.0
3	☐			256.67		P	11.5
4	☐			224.45		P	16.4
5	☐			242.23		P	8.4
6	☐			251.12		P	14.1
7	☐			254.45		P	8.9
8	☐			271.12		P	6.2
9	☐			214.45		P	16.8

164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			116.67		P	21.4
2	☐			91.67		P	27.3
3	☐			86.11		P	68.7
4	☐			94.45		P	35.7
5	☐			100.00		P	8.3
6	☐			83.34		P	40.0
7	☐			102.78		P	16.9
8	☐			122.23		P	38.8
9	☐			88.89		P	19.5

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			45.56		P	11.2
2	☐			58.89		P	22.9
3	☐			46.67		P	14.3
4	☐			48.89		P	23.9
5	☐			45.55		P	36.8
6	☐			44.44		P	21.7
7	☐			82.22		P	15.4
8	☐			83.34		P	21.2
9	☐			68.89		P	19.6

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	502.81	0.0000	P	8.8
2	☐	0.100	0.088	1516.83	0.0001	P	5.0
3	☐	1.000	0.955	11569.46	0.0011	P	1.4
4	☐	50.000	47.928	557778.40	0.0528	P	0.3
5	☐	125.000	120.312	1380754.40	0.1324	P	0.2
6	☐	250.000	243.639	2785086.17	0.2680	P	1.0
7	☐	500.000	487.994	5357963.40	0.5367	P	0.5
8	☐	1000.000	1008.283	10708855.27	1.1089	A	0.3
9	☐			3114.40	0.0004	P	5.3

$$y = 0.0011 * x + 4.7498E-005$$

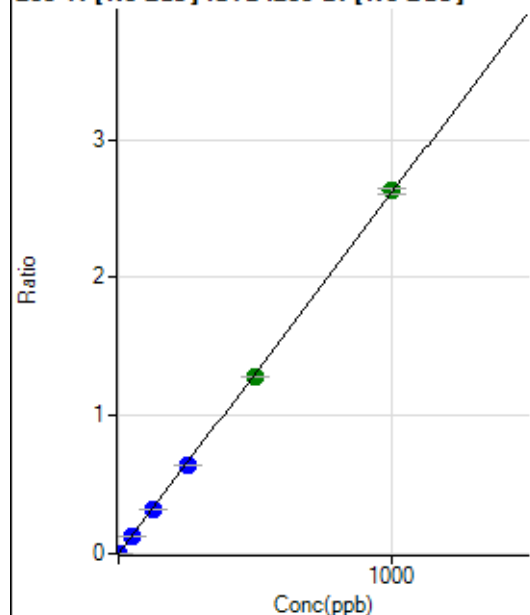
$$R = 0.9999$$

$$DL = 0.01135$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	727.83	0.0001	P	1.9
2	☐	0.100	0.096	3353.34	0.0003	P	3.3
3	☐	1.000	0.960	27136.97	0.0026	P	1.6
4	☐	50.000	48.464	1338110.63	0.1266	P	0.6
5	☐	125.000	121.760	3315965.70	0.3179	P	0.3
6	☐	250.000	244.343	6628638.04	0.6378	P	1.0
7	☐	500.000	491.012	12794507.67	1.2816	A	0.6
8	☐	1000.000	1006.390	25367424.87	2.6268	A	1.3
9	☐			7257.91	0.0009	P	6.0

$$y = 0.0026 * x + 6.8728E-005$$

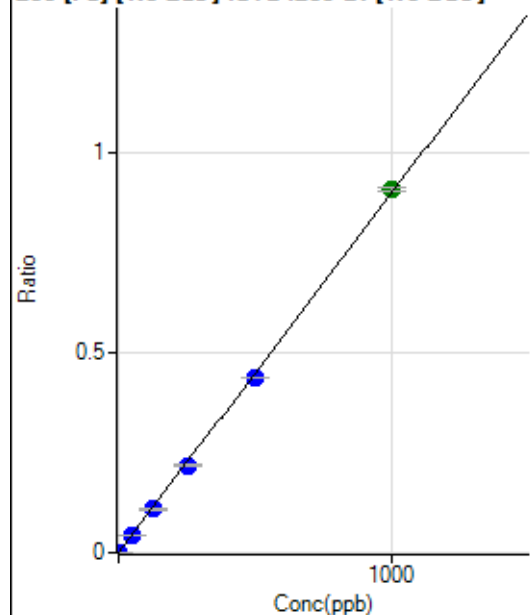
$$R = 0.9999$$

$$DL = 0.001506$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1285.29	0.0001	P	4.0
2	☐	0.100	0.100	2215.06	0.0002	P	4.7
3	☐	1.000	0.952	10283.86	0.0010	P	0.8
4	☐	50.000	48.540	461699.87	0.0437	P	0.3
5	☐	125.000	120.537	1129341.07	0.1083	P	0.5
6	☐	250.000	242.957	2266495.36	0.2181	P	1.1
7	☐	500.000	486.270	4356264.65	0.4364	P	0.8
8	☐	1000.000	1009.257	8745140.53	0.9056	A	1.1
9	☐			22133.70	0.0027	P	2.0

$$y = 8.9713E-004 * x + 1.2138E-004$$

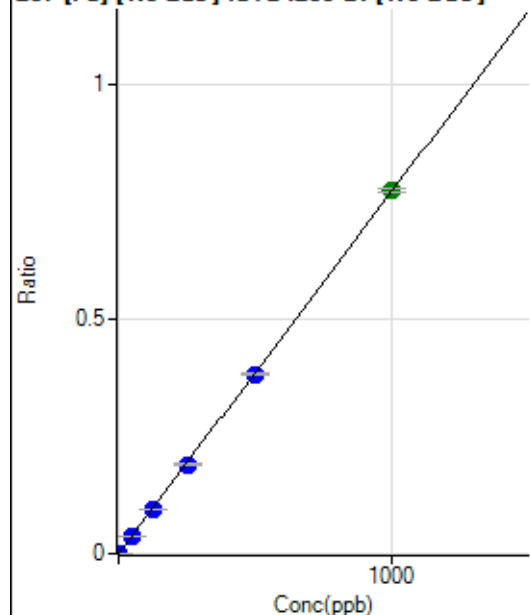
$$R = 0.9998$$

$$DL = 0.0163$$

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	1224.17	0.0001	P	11.6
2	☐	0.100	0.091	1953.90	0.0002	P	2.3
3	☐	1.000	1.006	9411.01	0.0009	P	1.1
4	☐	50.000	49.258	403368.92	0.0382	P	1.2
5	☐	125.000	122.370	986958.06	0.0946	P	1.1
6	☐	250.000	246.812	1981987.34	0.1907	P	0.9
7	☐	500.000	496.431	3828187.67	0.3835	P	0.6
8	☐	1000.000	1002.948	7480622.22	0.7746	A	1.0
9	☐			19985.84	0.0024	P	2.3

$$y = 7.7222\text{E-}004 * x + 1.1559\text{E-}004$$

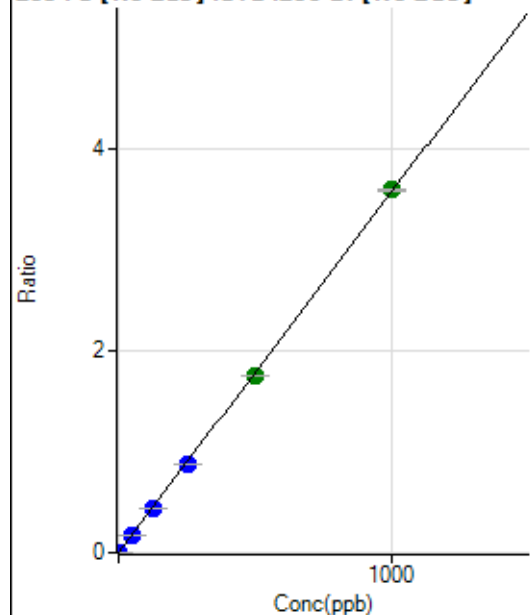
$$R = 1.0000$$

$$DL = 0.05221$$

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	4996.81	0.0005	P	2.3
2	☐	0.100	0.096	8567.97	0.0008	P	2.2
3	☐	1.000	0.960	41095.89	0.0039	P	0.9
4	☐	50.000	48.633	1839443.78	0.1740	P	0.4
5	☐	125.000	120.915	4505067.33	0.4319	P	0.5
6	☐	250.000	243.876	9047448.85	0.8705	P	0.6
7	☐	500.000	491.151	17497674.99	1.7527	A	0.4
8	☐	1000.000	1006.534	34683765.70	3.5915	A	0.6
9	☐			89296.32	0.0108	P	0.4

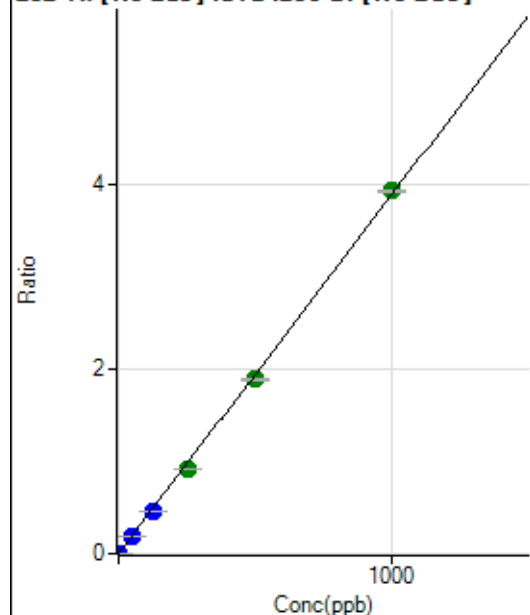
$$y = 0.0036 * x + 4.7191\text{E-}004$$

$$R = 0.9999$$

$$DL = 0.009048$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1435.31	0.0001	P	3.0
2	☐	0.100	0.078	4608.34	0.0004	P	0.4
3	☐	1.000	0.818	34986.22	0.0033	P	1.4
4	☐	50.000	46.534	1915174.75	0.1811	P	1.0
5	☐	125.000	117.043	4750799.35	0.4554	P	0.8
6	☐	250.000	236.233	9551541.53	0.9190	A	0.7
7	☐	500.000	486.031	18875278.66	1.8907	A	0.4
8	☐	1000.000	1011.595	38002523.54	3.9351	A	0.6
9	☐			8376.97	0.0010	P	4.0

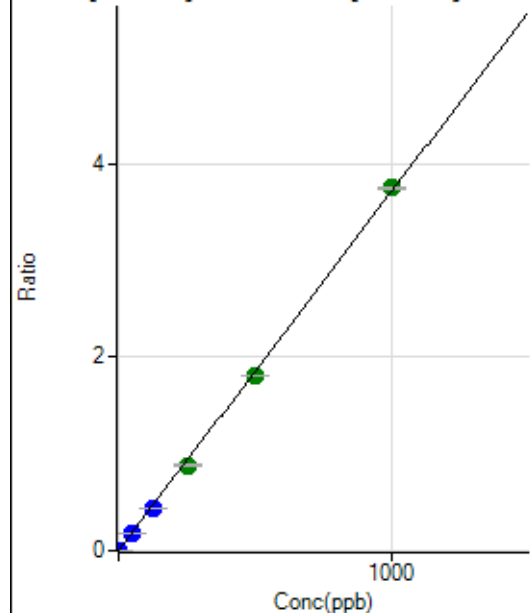
$$y = 0.0039 * x + 1.3555E-004$$

$$R = 0.9997$$

$$DL = 0.003182$$

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	1755.76	0.0002	P	5.1
2	☐	0.100	0.089	5212.38	0.0005	P	2.5
3	☐	1.000	0.937	38449.56	0.0036	P	1.0
4	☐	50.000	47.853	1881305.30	0.1779	P	0.4
5	☐	125.000	118.741	4603496.33	0.4413	P	0.2
6	☐	250.000	237.941	9188596.04	0.8841	A	0.7
7	☐	500.000	486.994	18062732.00	1.8093	A	0.5
8	☐	1000.000	1010.408	36251906.71	3.7538	A	0.6
9	☐			4928.92	0.0006	P	5.4

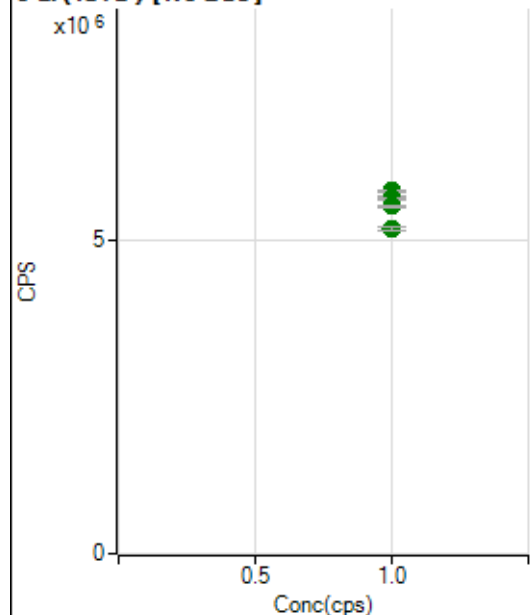
$$y = 0.0037 * x + 1.6577E-004$$

$$R = 0.9998$$

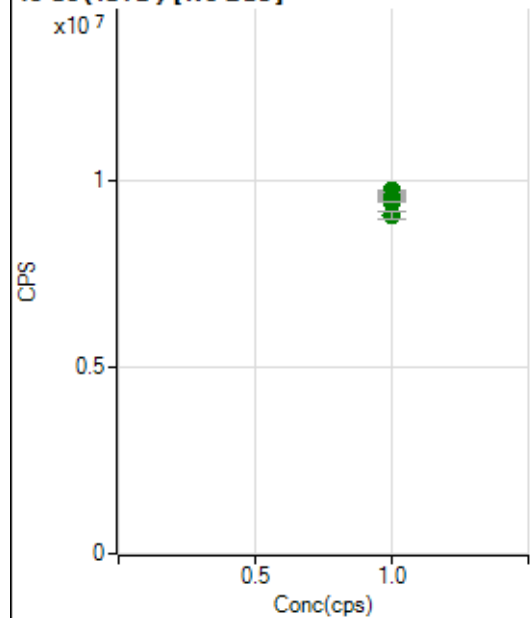
$$DL = 0.006807$$

Weight: <None>

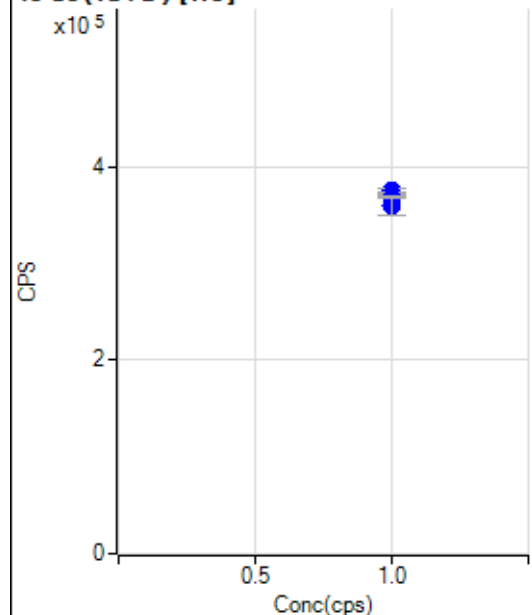
Min Conc: 0

6 Li (ISTD) [No Gas]

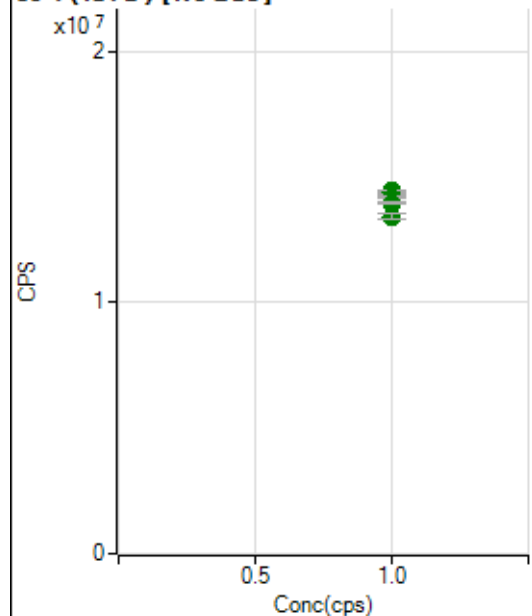
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5676633.94		A	0.4
2	☐	1.000		5668347.83		A	0.4
3	☐	1.000		5688240.96		A	0.6
4	☐	1.000		5778717.83		A	0.4
5	☐	1.000		5772782.62		A	0.7
6	☐	1.000		5775880.19		A	1.0
7	☐	1.000		5659047.76		A	0.5
8	☐	1.000		5535680.40		A	0.5
9	☐	1.000		5175464.37		A	1.5

45 Sc (ISTD) [No Gas]

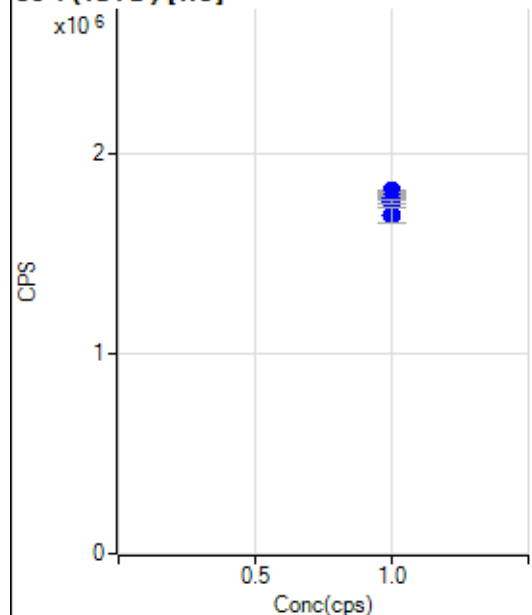
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		9481815.84		A	0.2
2	☐	1.000		9599209.50		A	0.7
3	☐	1.000		9686954.38		A	0.6
4	☐	1.000		9719159.68		A	0.4
5	☐	1.000		9689025.65		A	1.1
6	☐	1.000		9670830.08		A	0.5
7	☐	1.000		9532114.80		A	0.2
8	☐	1.000		9442154.98		A	0.2
9	☐	1.000		9075461.75		A	2.1

45 Sc (ISTD) [He]

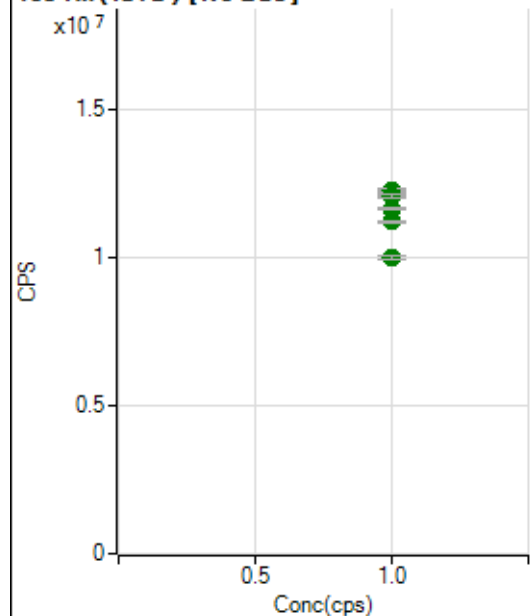
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		369006.41		P	0.3
2	☐	1.000		369728.83		P	0.3
3	☐	1.000		373601.76		P	0.3
4	☐	1.000		373293.09		P	0.4
5	☐	1.000		372075.11		P	0.2
6	☐	1.000		374748.06		P	1.2
7	☐	1.000		372122.75		P	0.5
8	☐	1.000		367666.85		P	0.6
9	☐	1.000		358921.03		P	5.1

89 Y (ISTD) [No Gas]

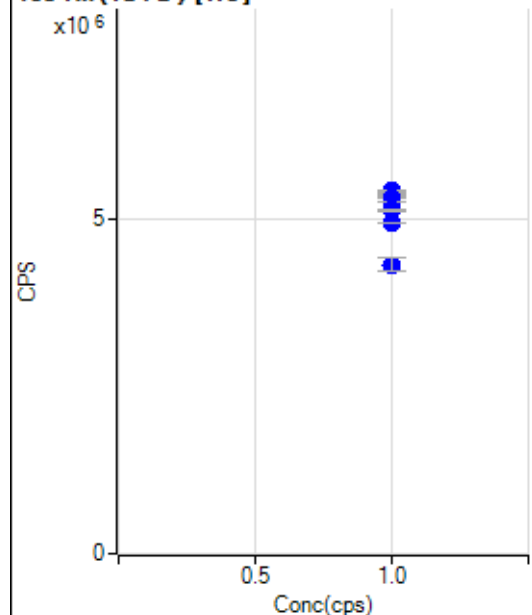
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		14200271.46		A	0.4
2	☐	1.000		14246601.73		A	0.9
3	☐	1.000		14352104.09		A	0.3
4	☐	1.000		14448367.15		A	0.7
5	☐	1.000		14337210.34		A	0.6
6	☐	1.000		14421391.59		A	1.2
7	☐	1.000		14191422.01		A	0.4
8	☐	1.000		13959092.71		A	0.6
9	☐	1.000		13429724.24		A	2.1

89 Y (ISTD) [He]

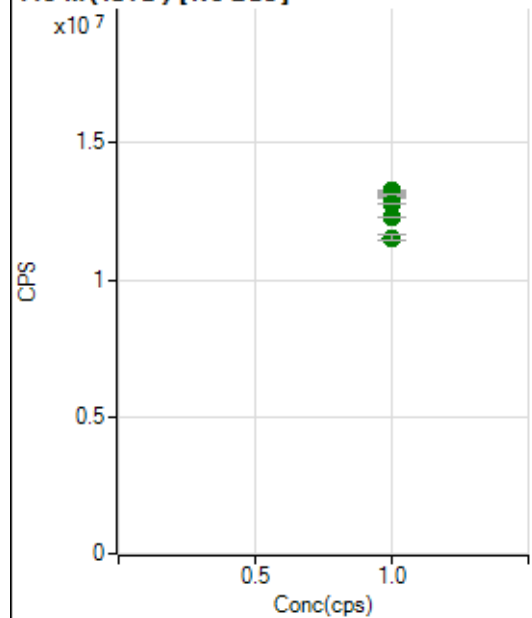
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1786068.32		P	1.0
2	☐	1.000		1780171.88		P	0.6
3	☐	1.000		1805111.26		P	0.9
4	☐	1.000		1817243.52		P	0.6
5	☐	1.000		1791009.30		P	0.8
6	☐	1.000		1804138.93		P	0.7
7	☐	1.000		1783933.01		P	1.4
8	☐	1.000		1763604.07		P	0.8
9	☐	1.000		1693158.45		P	4.7

103 Rh (ISTD) [No Gas]

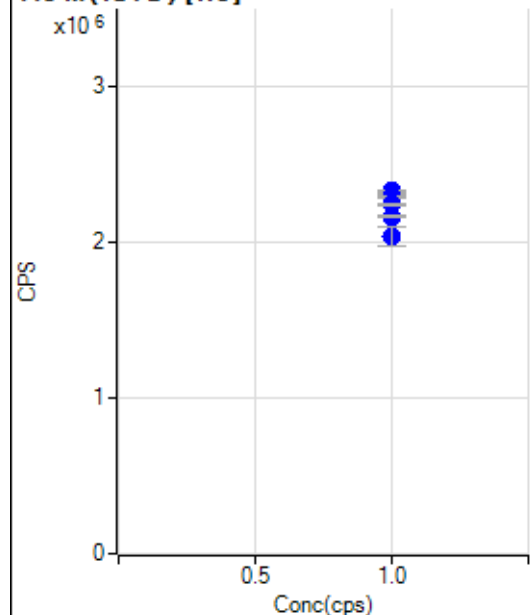
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		12196638.82		A	0.6
2	☐	1.000		12108110.34		A	0.9
3	☐	1.000		12235250.27		A	0.8
4	☐	1.000		12245132.91		A	1.2
5	☐	1.000		12087492.02		A	0.7
6	☐	1.000		12076621.02		A	0.7
7	☐	1.000		11634618.14		A	0.4
8	☐	1.000		11211738.10		A	0.4
9	☐	1.000		9994872.36		A	1.8

103 Rh (ISTD) [He]

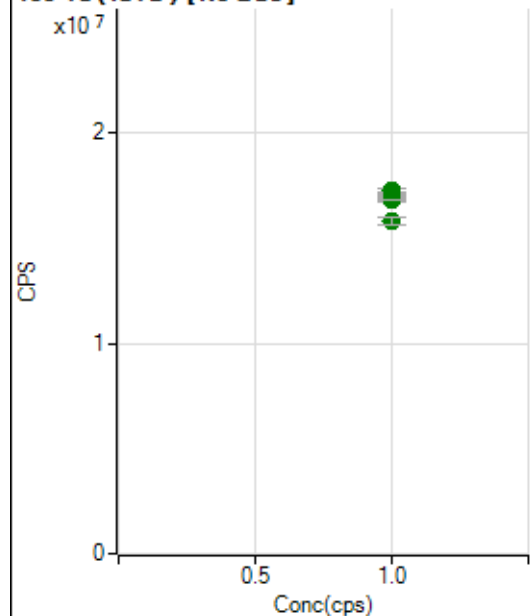
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5375721.31		P	0.6
2	☐	1.000		5371711.10		P	0.3
3	☐	1.000		5422548.46		P	0.7
4	☐	1.000		5429741.73		P	0.2
5	☐	1.000		5324982.77		P	0.2
6	☐	1.000		5267961.80		P	0.4
7	☐	1.000		5141805.76		P	0.6
8	☐	1.000		4951072.53		P	0.4
9	☐	1.000		4327307.26		P	5.1

115 In (ISTD) [No Gas]

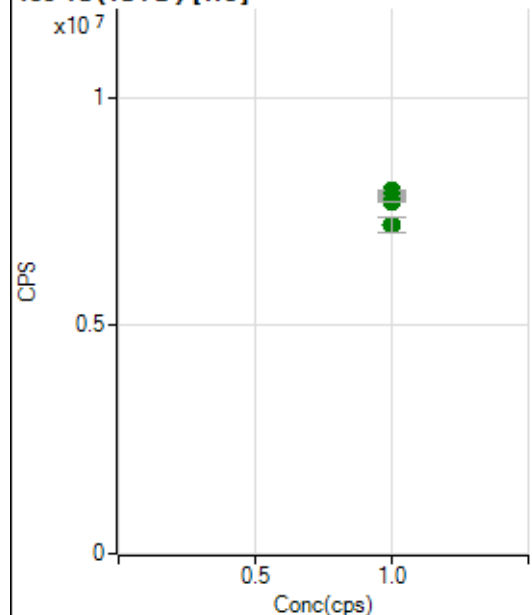
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		13244140.61		A	0.7
2	☐	1.000		13076590.78		A	1.0
3	☐	1.000		13248418.27		A	0.4
4	☐	1.000		13234398.15		A	0.8
5	☐	1.000		13084471.47		A	0.7
6	☐	1.000		13099597.24		A	0.6
7	☐	1.000		12795102.16		A	0.1
8	☐	1.000		12305907.86		A	0.3
9	☐	1.000		11543035.97		A	1.7

115 In (ISTD) [He]

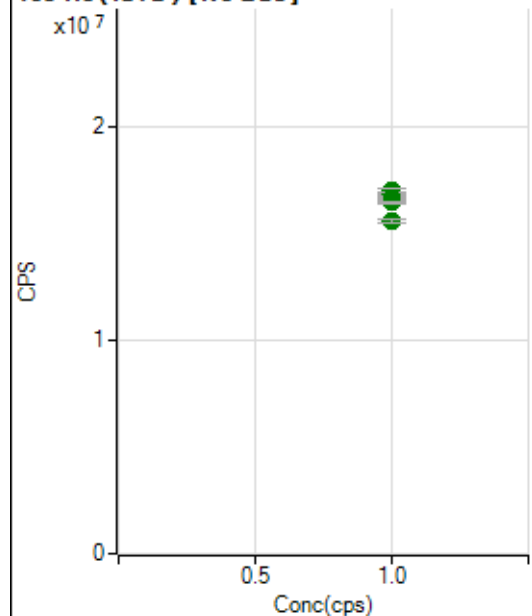
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2298585.42		P	0.6
2	☐	1.000		2307781.60		P	0.3
3	☐	1.000		2324594.16		P	0.4
4	☐	1.000		2333980.58		P	0.5
5	☐	1.000		2305516.37		P	0.7
6	☐	1.000		2296153.82		P	0.9
7	☐	1.000		2247442.13		P	0.3
8	☐	1.000		2168393.50		P	0.5
9	☐	1.000		2038657.82		P	5.7

159 Tb (ISTD) [No Gas]

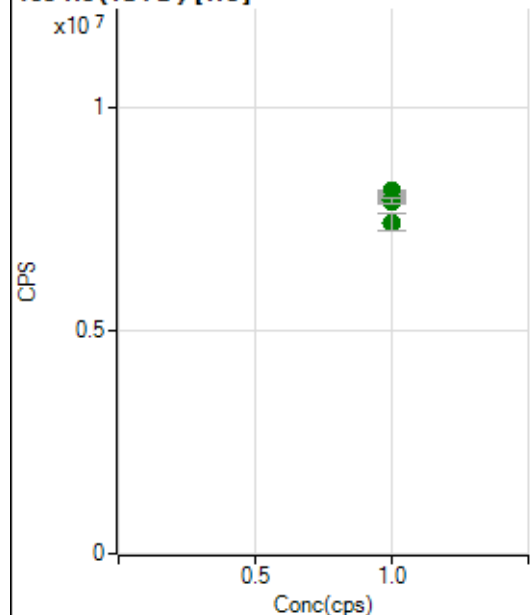
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		17009226.14		A	0.2
2	☐	1.000		16816584.05		A	1.2
3	☐	1.000		16974765.16		A	0.8
4	☐	1.000		17259684.19		A	1.0
5	☐	1.000		17134238.63		A	1.0
6	☐	1.000		17173292.25		A	0.6
7	☐	1.000		16971225.72		A	0.7
8	☐	1.000		16825336.28		A	0.2
9	☐	1.000		15820214.21		A	1.9

159 Tb (ISTD) [He]

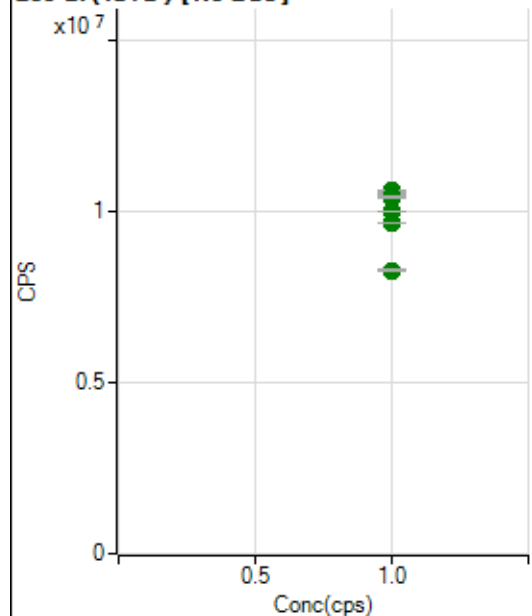
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7769490.65		A	0.8
2	☐	1.000		7738259.05		A	0.2
3	☐	1.000		7904726.69		A	0.2
4	☐	1.000		7958557.31		A	0.8
5	☐	1.000		7858024.19		A	0.6
6	☐	1.000		7951113.01		A	0.3
7	☐	1.000		7857738.29		A	0.2
8	☐	1.000		7717386.20		A	0.4
9	☐	1.000		7208601.14		A	4.7

165 Ho (ISTD) [No Gas]

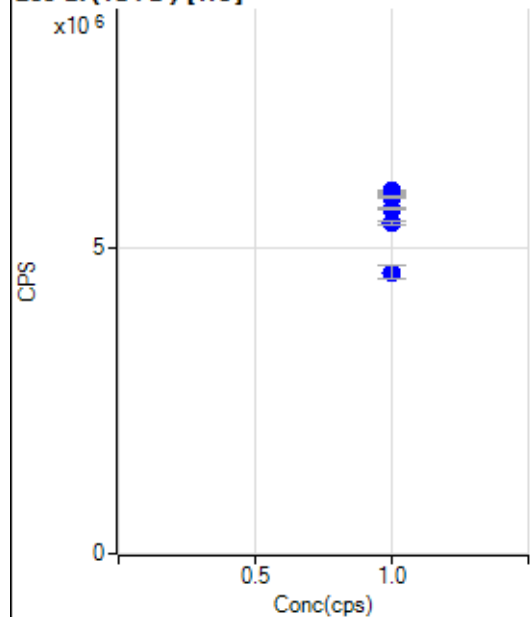
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		16644466.69		A	0.6
2	☐	1.000		16490453.84		A	1.1
3	☐	1.000		16736717.21		A	0.7
4	☐	1.000		16761192.22		A	0.7
5	☐	1.000		16864406.11		A	0.9
6	☐	1.000		17000555.24		A	1.1
7	☐	1.000		16644029.02		A	0.4
8	☐	1.000		16465317.38		A	0.3
9	☐	1.000		15567289.24		A	1.1

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7931537.04		A	0.3
2	☐	1.000		7908590.57		A	0.5
3	☐	1.000		8096111.62		A	0.6
4	☐	1.000		8099954.88		A	0.2
5	☐	1.000		8028085.72		A	1.1
6	☐	1.000		8137181.62		A	0.5
7	☐	1.000		8048529.67		A	0.9
8	☐	1.000		7914364.33		A	1.2
9	☐	1.000		7426786.97		A	5.4

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		10589431.23		A	0.6
2	☐	1.000		10515298.66		A	0.6
3	☐	1.000		10544267.41		A	0.0
4	☐	1.000		10573040.95		A	0.9
5	☐	1.000		10432028.31		A	0.5
6	☐	1.000		10393089.01		A	0.6
7	☐	1.000		9983120.27		A	0.3
8	☐	1.000		9657363.26		A	0.2
9	☐	1.000		8278655.23		A	1.3

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5886789.91		P	0.3
2	☐	1.000		5901182.69		P	0.3
3	☐	1.000		5932114.91		P	0.6
4	☐	1.000		5941105.88		P	0.6
5	☐	1.000		5874152.97		P	1.0
6	☐	1.000		5836274.98		P	0.4
7	☐	1.000		5643876.58		P	0.5
8	☐	1.000		5418807.35		P	0.8
9	☐	1.000		4606093.40		P	4.8

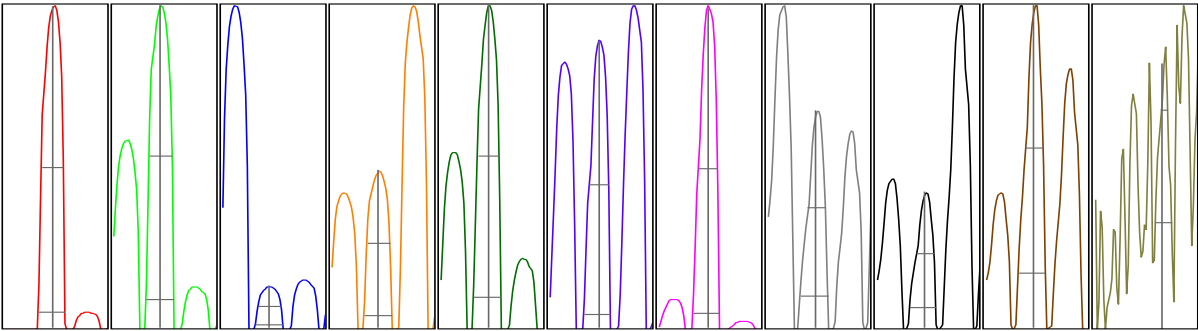
US EPA Tune Check Sample Report

Batch Folder D:\ICP-MS Data\P711022019MS.b
Report Comment
Instrument Name G8403A JP14410463

[No Gas]					
Mass	Count	RSD%	RSD%	RSD%	
	(Mean)	(Actual)	(Required)	(Flag)	
9	13878	7.70	5.00	[F]	
24	134742	7.57	5.00	[F]	
25	17947	7.37	5.00	[F]	
26	21220	7.35	5.00	[F]	
59	98814	7.78	5.00	[F]	
113	12451	7.48	5.00	[F]	
115	147671	7.73	5.00	[F]	
206	35077	7.47	5.00	[F]	
207	33553	7.72	5.00	[F]	
208	75814	7.66	5.00	[F]	
220	53	2.41			

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	14437	11978	14164	14394	14418
24	139324	116516	138467	139903	139498
25	18668	15593	18367	18456	18651
26	22091	18443	21681	21910	21975
59	102397	85092	101518	102355	102708
113	12927	10792	12714	12896	12927
115	153655	127427	150184	152901	154189
206	36344	30401	35965	36197	36480
207	34826	28933	34432	34620	34953
208	78410	65447	77995	78303	78915
220	53	55	53	52	53

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width- X% (Flag)
9	22961	8.95	8.9 - 9.1		0.779	0.900	
24	211617	23.90	23.9 - 24.1		0.809	0.900	
25	28119	24.90	24.9 - 25.1		0.795	0.900	
26	32587	25.90	25.9 - 26.1		0.816	0.900	
59	163346	58.95	58.9 - 59.1		0.802	0.900	
113	22352	113.00	112.9 - 113.1		0.772	0.900	
115	267533	115.00	114.9 - 115.1		0.771	0.900	
206	64211	205.95	205.9 - 206.1		0.802	0.900	
207	58235	206.95	206.9 - 207.1		0.751	0.900	
208	138314	207.95	207.9 - 208.1		0.789	0.900	
220	56	220.50	-		0.447		

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

Tune Parameters

Plasma Paramters

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

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.0	V	Deflect	14.0	V
Extract 2	-125.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-55	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	170	V			

[He]

Mass	Count	RSD%	RSD%
	(Mean)	(Actual)	(Required)
59	24194	1.25	
89	20334	1.37	
205	29277	1.52	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	24466	24322	23682	24302	24199
89	20616	20355	19877	20473	20351
205	29683	29461	28515	29354	29370

Integration Time [sec] = 0.1

Tune Parameters

Plasma Paramters

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

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.4	V	Deflect	2.0	V
Extract 2	-135.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-60	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP Bias	-18.0	V	Energy Discrimination		5.0 V
He Flow	4.1	mL/min	OctP RF	190	V			