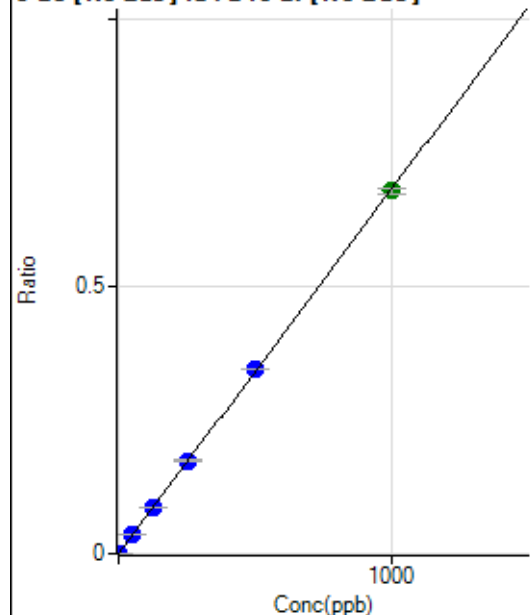


Calibration for 003CALB.d

Batch Folder: D:\ICP-MS Data\P7020220 MS.b\
 Analysis File: P7020220 MS.batch.bin
 DA Date-Time: 2020-02-02 17:54:57
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2020-02-02 11:31:37
2	004CALS.d	S02	2020-02-02 11:35:17
3	005CALS.d	S03	2020-02-02 11:40:29
4	006CALS.d	S04	2020-02-02 11:44:46
5	007CALS.d	S05	2020-02-02 11:48:40
6	008CALS.d	S06	2020-02-02 11:52:31
7	009CALS.d	S07	2020-02-02 11:56:23
8	010CALS.d	S08	2020-02-02 12:00:20

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	42.59	0.0000	P	27.6
2	☐	1.000	0.981	4878.69	0.0007	P	1.8
3	☐	50.000	51.244	244883.84	0.0349	P	1.0
4	☐	125.000	127.691	597800.92	0.0869	P	0.4
5	☐	250.000	255.174	1152280.37	0.1737	P	1.0
6	☐	500.000	505.386	2259708.82	0.3440	P	0.5
7	☐	1000.000	995.615	4478965.03	0.6777	A	1.4
8	☐			550.02	0.0001	P	12.8

$$y = 6.8070\text{E-}004 * x + 6.0849\text{E-}006$$

$$R = 1.0000$$

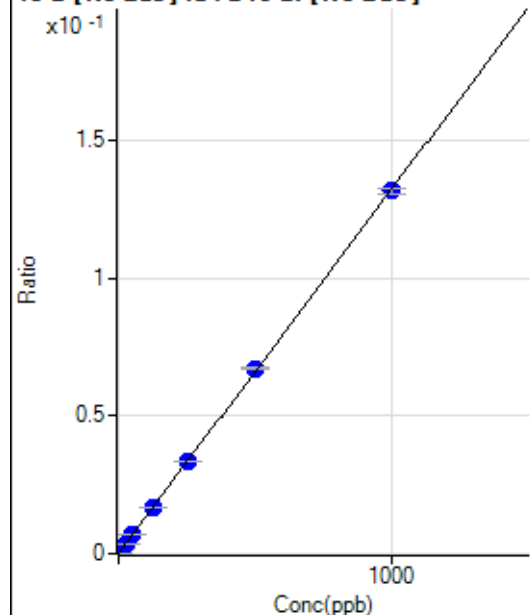
$$DL = 0.007395$$

$$BEC = 0.008939$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	641.71	0.0001	P	18.8
2	☐	25.000	24.487	24081.01	0.0033	P	2.7
3	☐	50.000	51.350	48244.56	0.0069	P	1.2
4	☐	125.000	125.989	115043.49	0.0167	P	1.5
5	☐	250.000	252.193	221543.43	0.0334	P	1.4
6	☐	500.000	506.856	440284.96	0.0670	P	1.1
7	☐	1000.000	995.845	869756.88	0.1316	P	1.6
8	☐			16529.07	0.0029	P	10.3

$$y = 1.3206\text{E-}004 * x + 9.1603\text{E-}005$$

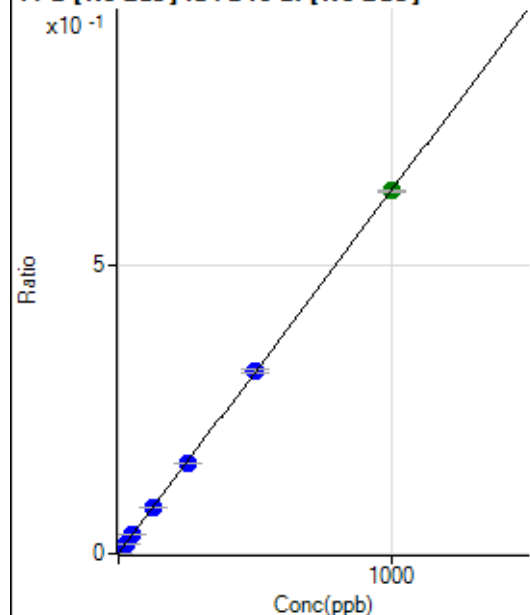
$$R = 1.0000$$

$$DL = 0.3905$$

$$BEC = 0.6936$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	3133.77	0.0004	P	2.8
2	☐	25.000	24.622	115645.93	0.0160	P	2.0
3	☐	50.000	50.771	227814.50	0.0325	P	0.4
4	☐	125.000	124.772	543996.64	0.0791	P	1.4
5	☐	250.000	248.143	1040697.95	0.1569	P	1.4
6	☐	500.000	503.352	2087410.38	0.3178	P	1.5
7	☐	1000.000	998.788	4164544.19	0.6301	A	0.6
8	☐			76841.18	0.0136	P	8.4

$$y = 6.3043\text{E-}004 * x + 4.4735\text{E-}004$$

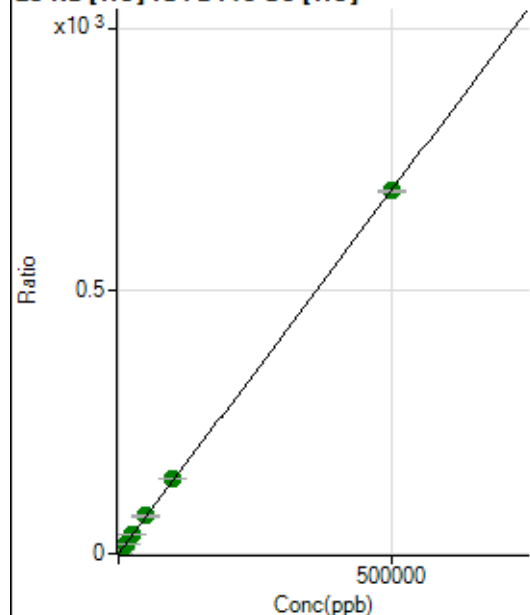
$$R = 1.0000$$

$$DL = 0.0592$$

$$BEC = 0.7096$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	26145.80	0.0332	P	2.6
2	☐	500.000	519.851	602727.20	0.7520	P	4.9
3	☐	5000.000	5308.619	5622555.90	7.3741	A	2.4
4	☐	12500.000	12981.493	13403161.93	17.9844	A	0.7
5	☐	25000.000	26204.213	26630228.89	36.2691	A	1.0
6	☐	50000.000	51774.951	54416278.99	71.6291	A	1.0
7	☐	100000.00	102607.02	109573263.56	141.9212	A	0.6
8	☐	500000.00	499225.74	499610994.50	690.3776	A	0.4

$$y = 0.0014 * x + 0.0332$$

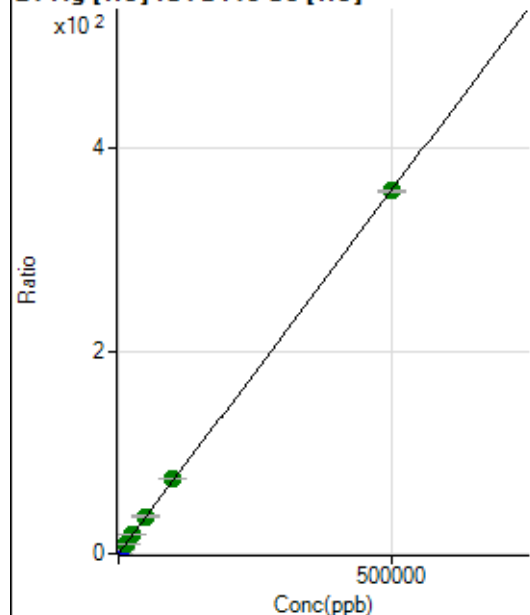
$$R = 1.0000$$

$$DL = 1.85$$

$$BEC = 23.97$$

Weight: <None>

Min Conc: 0

24 Mg [He] ISTD:45 Sc [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	338.91	0.0004	P	11.7
2	☐	500.000	528.131	303488.98	0.3788	P	6.3
3	☐	5000.000	5394.568	2947022.79	3.8649	P	2.1
4	☐	12500.000	13094.068	6991089.57	9.3806	A	0.6
5	☐	25000.000	26336.695	13853789.20	18.8672	A	0.7
6	☐	50000.000	51577.092	28071181.53	36.9487	A	0.5
7	☐	100000.00	102319.08	56591039.46	73.2987	A	0.5
8	☐	500000.00	499292.81	258840589.12	357.6785	A	0.3

$$y = 7.1637\text{E-}004 * x + 4.2985\text{E-}004$$

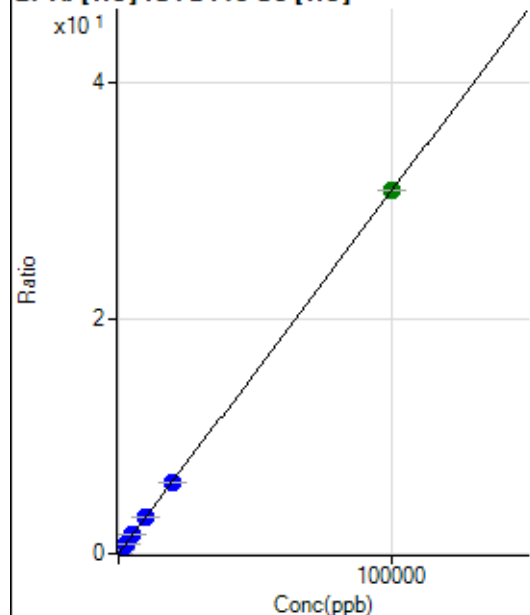
$$R = 1.0000$$

$$DL = 0.2101$$

$$BEC = 0.6$$

Weight: <None>

Min Conc: 0

27 Al [He] ISTD:45 Sc [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	102.78	0.0001	P	32.9
2	☐	20.000	19.949	5026.04	0.0063	P	9.8
3	☐	1000.000	1044.002	245370.18	0.3218	P	3.2
4	☐	2500.000	2538.697	583119.69	0.7824	P	0.8
5	☐	5000.000	5107.039	1155723.93	1.5738	P	1.0
6	☐	10000.000	9955.773	2330883.40	3.0679	P	0.4
7	☐	20000.000	19800.813	4710792.77	6.1016	P	0.6
8	☐	100000.00	100037.50	22308186.44	30.8261	A	0.1

$$y = 3.0814\text{E-}004 * x + 1.3010\text{E-}004$$

$$R = 1.0000$$

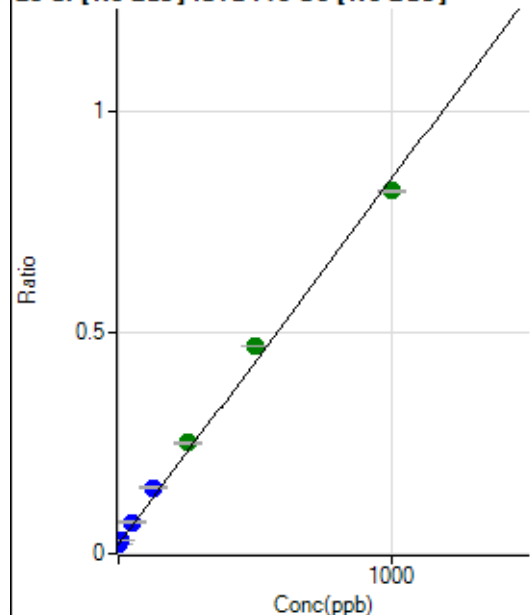
$$DL = 0.4166$$

$$BEC = 0.4222$$

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	407320.18	0.0209	P	1.4
2	☐	10.000	9.988	576581.26	0.0292	P	0.6
3	☐	50.000	61.103	1384432.08	0.0714	P	1.4
4	☐	125.000	155.277	2840027.56	0.1492	P	1.4
5	☐	250.000	277.163	4671229.66	0.2499	A	0.7
6	☐	500.000	543.476	8916337.09	0.4700	A	0.2
7	☐	1000.000	967.131	16013034.39	0.8200	A	0.2
8	☐			843098.43	0.0497	P	1.8

$$y = 8.2622\text{E-}004 * x + 0.0209$$

$$R = 0.9978$$

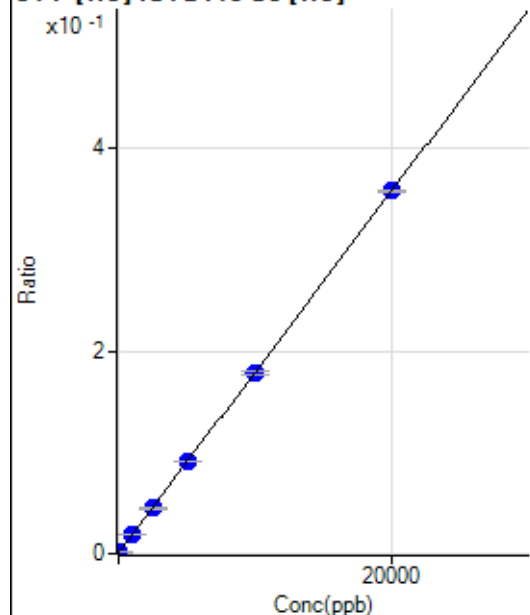
$$DL = 1.037$$

$$BEC = 25.34$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	-23.949	222.23	0.0003	P	1.3
2	☐	0.000	23.949	913.96	0.0011	P	8.8
3	☐	1000.000	1007.078	14257.40	0.0187	P	1.0
4	☐	2500.000	2486.338	33622.45	0.0451	P	2.9
5	☐	5000.000	5035.680	66560.69	0.0906	P	0.3
6	☐	10000.000	9965.208	135738.15	0.1787	P	2.2
7	☐	20000.000	20009.830	276449.89	0.3581	P	0.7
8	☐			275.01	0.0004	P	13.5

$$y = 1.7859\text{E-}005 * x + 7.0944\text{E-}004$$

$$R = 1.0000$$

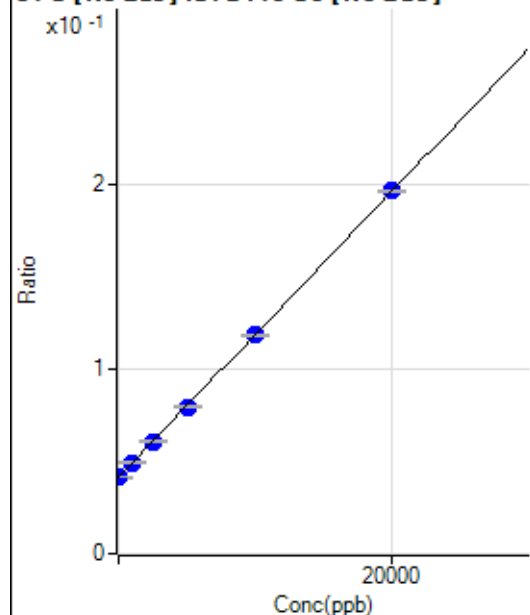
$$DL = 8.735$$

$$BEC = 39.72$$

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	-19.945	804719.27	0.0414	P	1.1
2	☐	0.000	19.945	823180.01	0.0417	P	0.6
3	☐	1000.000	1003.257	955578.21	0.0493	P	1.5
4	☐	2500.000	2516.318	1161547.28	0.0610	P	0.6
5	☐	5000.000	4909.917	1487493.55	0.0796	P	0.7
6	☐	10000.000	9950.092	2251148.10	0.1187	P	1.1
7	☐	20000.000	20045.272	3845638.37	0.1969	P	0.5
8	☐			612725.31	0.0361	P	1.4

$$y = 7.7528\text{E-}006 * x + 0.0415$$

R = 1.0000

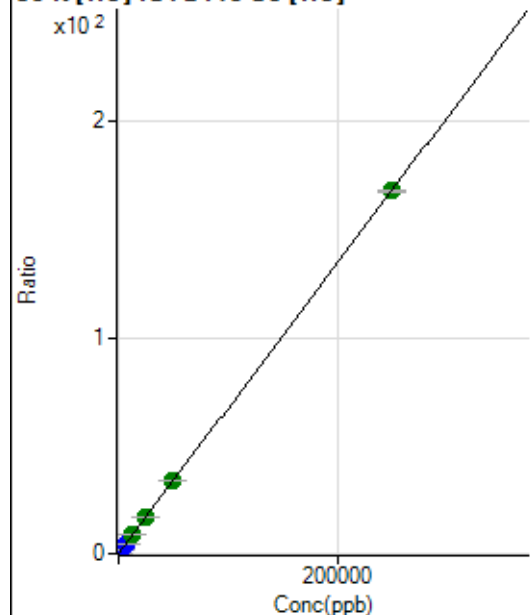
DL = 134.2

BEC = 5356

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	34961.38	0.0443	P	2.2
2	☐	500.000	503.468	306585.27	0.3825	P	4.2
3	☐	2500.000	2599.297	1364990.21	1.7901	P	2.0
4	☐	6250.000	6355.735	3214469.58	4.3131	P	0.6
5	☐	12500.000	12698.188	6294832.78	8.5729	A	0.4
6	☐	25000.000	24888.840	12733564.43	16.7606	A	0.8
7	☐	50000.000	49906.762	25912992.07	33.5636	A	0.7
8	☐	250000.00	250016.21	121554137.44	167.9649	A	0.3

$$y = 6.7164\text{E-}004 * x + 0.0443$$

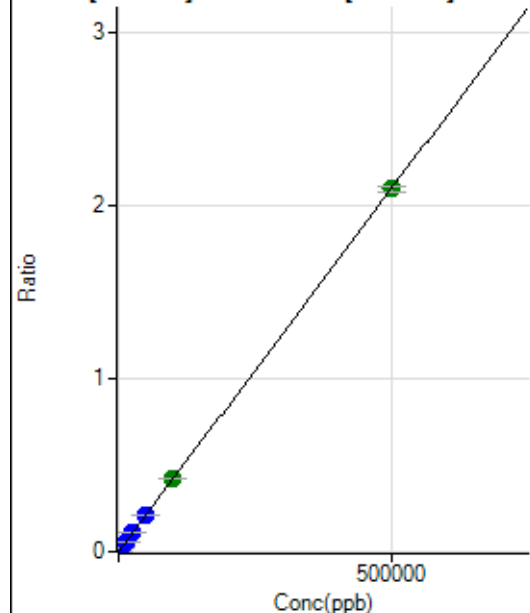
R = 1.0000

DL = 4.268

BEC = 65.99

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	380.58	0.0000	P	15.1
2	☐	500.000	505.651	42230.79	0.0021	P	3.9
3	☐	5000.000	5152.109	418793.82	0.0216	P	1.8
4	☐	12500.000	12887.132	1028028.64	0.0540	P	0.6
5	☐	25000.000	25767.997	2018202.95	0.1080	P	0.6
6	☐	50000.000	51109.903	4062904.78	0.2142	P	1.1
7	☐	100000.00	100500.07	8223414.07	0.4211	A	0.2
8	☐	500000.00	499739.39	35521584.13	2.0939	A	1.9

$$y = 4.1899\text{E-}006 * x + 1.9574\text{E-}005$$

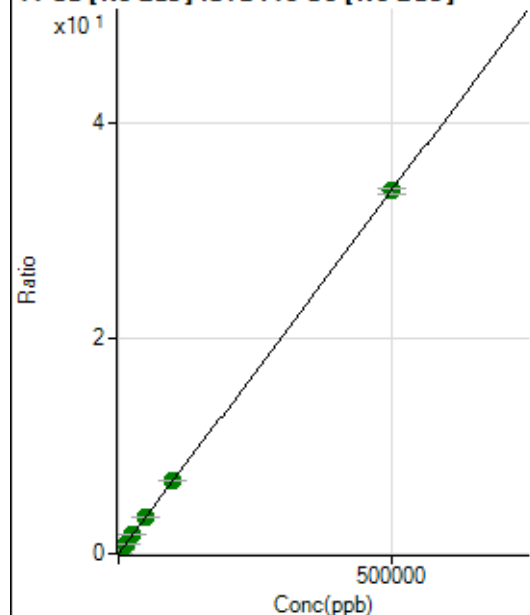
$$R = 1.0000$$

$$DL = 2.115$$

$$BEC = 4.672$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	15867.57	0.0008	P	2.4
2	☐	500.000	510.006	696008.19	0.0352	P	1.2
3	☐	5000.000	5067.754	6645765.69	0.3429	A	1.3
4	☐	12500.000	12713.954	16347558.53	0.8589	A	0.3
5	☐	25000.000	25466.459	32140117.73	1.7197	A	0.2
6	☐	50000.000	50493.528	64669672.28	3.4089	A	1.2
7	☐	100000.00	100313.32	132232977.95	6.7714	A	0.2
8	☐	500000.00	499858.62	572371529.46	33.7386	A	1.7

$$y = 6.7495\text{E-}005 * x + 8.1574\text{E-}004$$

$$R = 1.0000$$

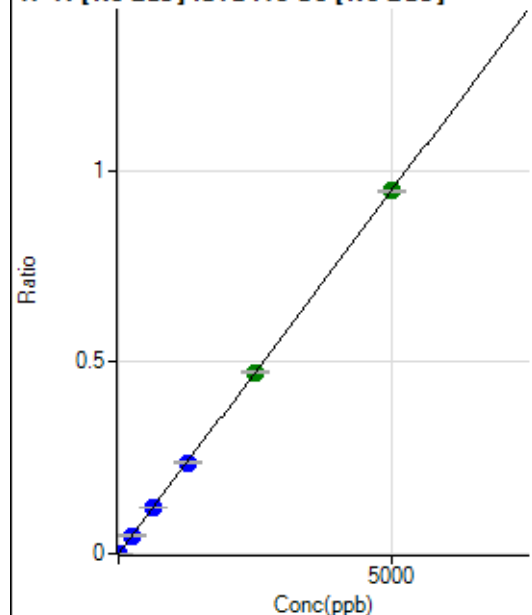
$$DL = 0.8687$$

$$BEC = 12.09$$

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	230.57	0.0000	P	28.1
2	☐	5.000	5.070	19199.37	0.0010	P	2.3
3	☐	250.000	251.316	922922.39	0.0476	P	1.1
4	☐	625.000	628.500	2266035.27	0.1191	P	0.2
5	☐	1250.000	1256.100	4446940.46	0.2379	P	0.5
6	☐	2500.000	2498.377	8977672.42	0.4732	A	1.3
7	☐	5000.000	4998.783	18489921.25	0.9469	A	0.5
8	☐			3797.90	0.0002	P	8.6

$$y = 1.8941\text{E-}004 * x + 1.1830\text{E-}005$$

$$R = 1.0000$$

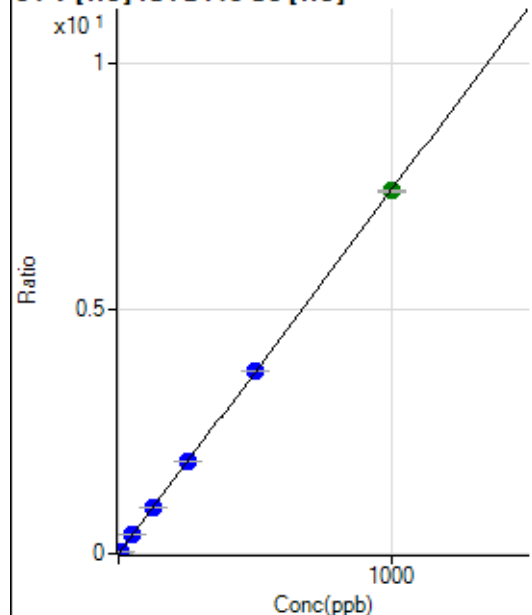
$$DL = 0.05266$$

$$BEC = 0.06245$$

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	0.0000	P	44.3
2	☐	5.000	5.153	30678.75	0.0383	P	6.6
3	☐	50.000	51.397	291104.75	0.3818	P	2.5
4	☐	125.000	126.380	699651.41	0.9388	P	0.5
5	☐	250.000	254.869	1390227.13	1.8932	P	0.3
6	☐	500.000	501.745	2831588.84	3.7270	P	0.5
7	☐	1000.000	997.667	5721616.10	7.4108	A	0.8
8	☐			1534.55	0.0021	P	7.9

$$y = 0.0074 * x + 1.1302\text{E-}005$$

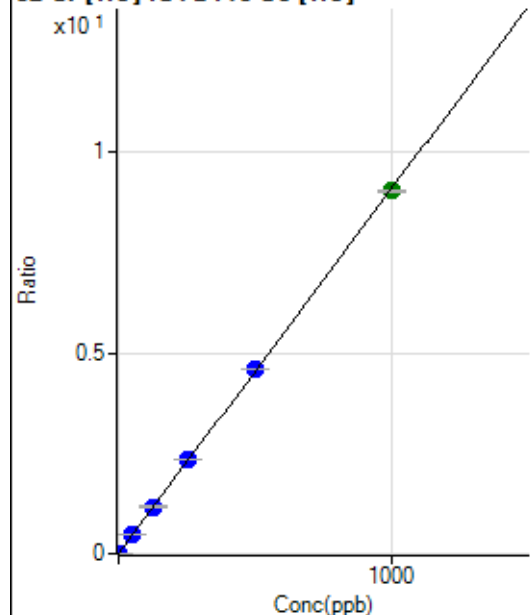
$$R = 1.0000$$

$$DL = 0.002022$$

$$BEC = 0.001521$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	2452.46	0.0031	P	4.8
2	☐	2.000	2.004	17096.81	0.0213	P	6.3
3	☐	50.000	52.570	366846.27	0.4812	P	2.8
4	☐	125.000	128.639	874132.03	1.1729	P	0.4
5	☐	250.000	258.993	1731622.77	2.3583	P	0.4
6	☐	500.000	505.755	3496471.23	4.6022	P	0.7
7	☐	1000.000	994.291	6983040.10	9.0448	A	0.8
8	☐			114454.44	0.1582	P	0.8

$$y = 0.0091 * x + 0.0031$$

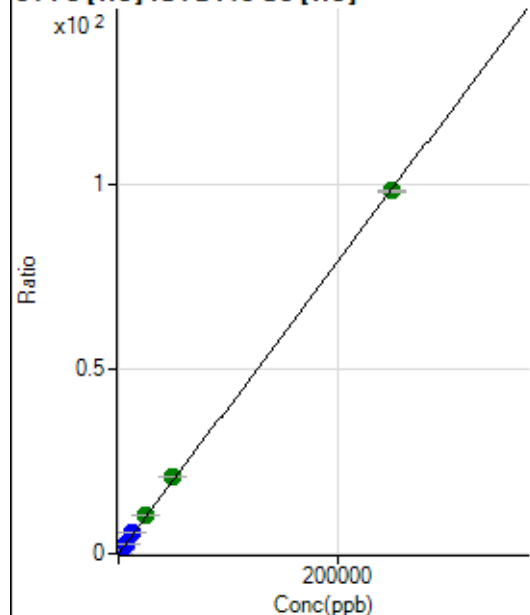
$$R = 0.9999$$

$$DL = 0.04905$$

$$BEC = 0.3419$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1014.43	0.0013	P	15.8
2	☐	50.000	59.187	19716.95	0.0246	P	6.2
3	☐	2500.000	2864.538	861494.08	1.1299	P	2.7
4	☐	6250.000	7075.659	2078648.55	2.7891	P	0.8
5	☐	12500.000	14081.249	4074825.57	5.5493	P	0.4
6	☐	25000.000	26928.706	8061985.34	10.6113	A	0.3
7	☐	50000.000	52667.622	16021921.15	20.7525	A	1.0
8	☐	250000.00	249170.25	71045441.27	98.1750	A	0.4

$$y = 3.9400E-004 * x + 0.0013$$

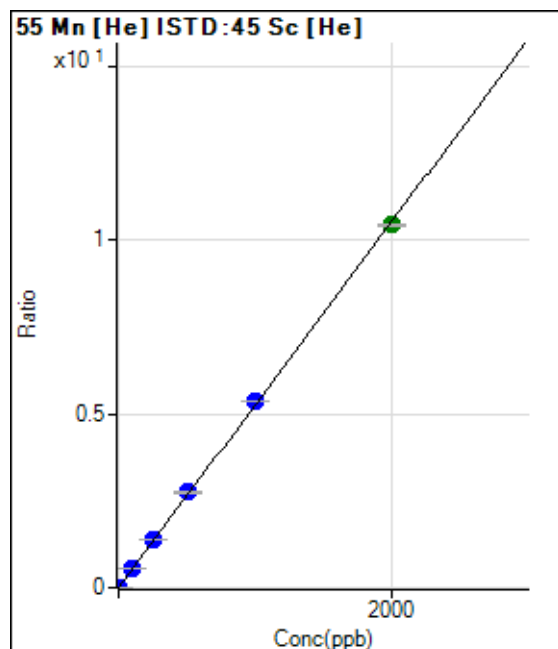
$$R = 0.9999$$

$$DL = 1.543$$

$$BEC = 3.261$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	111.11	0.0001	P	13.9
2	☐	1.000	1.052	4546.34	0.0057	P	6.4
3	☐	100.000	105.363	422675.18	0.5544	P	2.4
4	☐	250.000	259.592	1017743.20	1.3656	P	0.6
5	☐	500.000	521.153	2012947.47	2.7414	P	0.4
6	☐	1000.000	1018.719	4071528.27	5.3586	P	0.6
7	☐	2000.000	1983.885	8056777.31	10.4354	A	0.5
8	☐			37072.41	0.0512	P	0.5

$$y = 0.0053 * x + 1.4076E-004$$

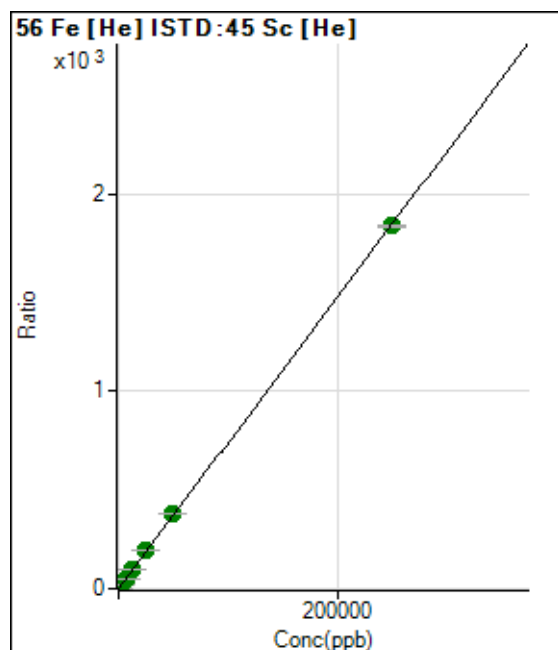
$$R = 0.9999$$

$$DL = 0.01116$$

$$BEC = 0.02676$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	9234.61	0.0117	P	3.0
2	☐	50.000	54.337	330362.48	0.4123	P	5.8
3	☐	2500.000	2745.502	15439922.22	20.2510	A	2.8
4	☐	6250.000	6754.122	37115821.20	49.8017	A	0.5
5	☐	12500.000	13535.178	73267007.19	99.7902	A	1.3
6	☐	25000.000	26844.719	150359927.44	197.9054	A	0.1
7	☐	50000.000	52098.510	296530554.78	384.0711	A	0.0
8	☐	250000.00	249329.00	1330108414.9	1,838.013	A	0.3

$$y = 0.0074 * x + 0.0117$$

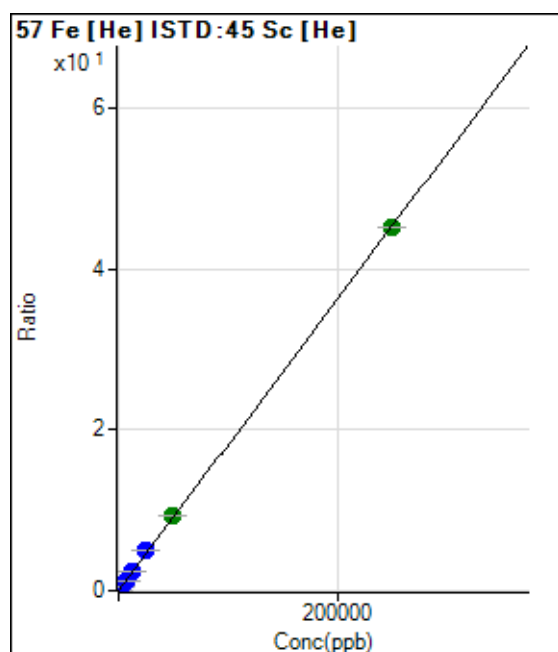
$$R = 0.9999$$

$$DL = 0.1452$$

$$BEC = 1.588$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	309.27	0.0004	P	14.5
2	☐	50.000	54.758	8250.69	0.0103	P	5.5
3	☐	2500.000	2776.243	383055.27	0.5024	P	2.0
4	☐	6250.000	6800.536	916673.86	1.2300	P	0.4
5	☐	12500.000	13649.547	1812267.78	2.4683	P	1.4
6	☐	25000.000	27300.516	3750542.16	4.9365	P	0.7
7	☐	50000.000	51909.241	7246603.00	9.3860	A	0.5
8	☐	250000.00	249314.09	32622622.95	45.0782	A	0.1

$$y = 1.8081\text{E-}004 * x + 3.9206\text{E-}004$$

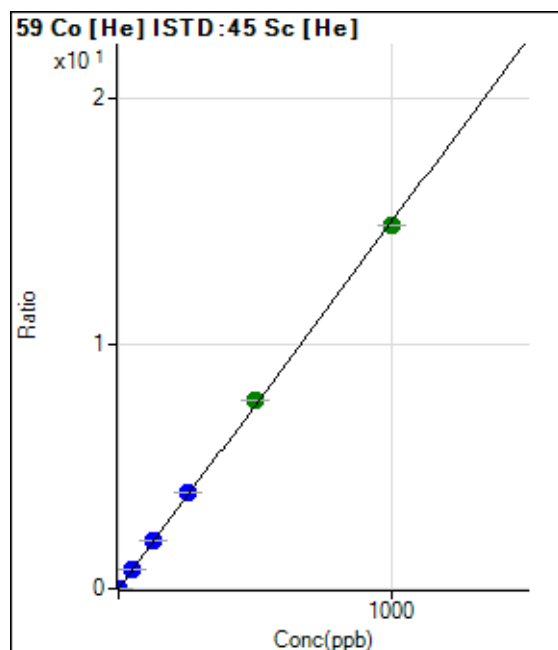
$$R = 0.9999$$

$$DL = 0.9447$$

$$BEC = 2.168$$

Weight: <None>

Min Conc: 0



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	126.67	0.0002	P	12.2
2	☐	1.000	1.013	12293.12	0.0153	P	8.3
3	☐	50.000	53.881	615797.43	0.8077	P	2.9
4	☐	125.000	131.040	1463799.85	1.9641	P	0.7
5	☐	250.000	262.482	2888553.99	3.9340	P	0.8
6	☐	500.000	513.507	5847042.21	7.6962	A	0.8
7	☐	1000.000	989.177	11446168.30	14.8252	A	0.1
8	☐			19203.88	0.0265	P	0.8

$$y = 0.0150 * x + 1.6070\text{E-}004$$

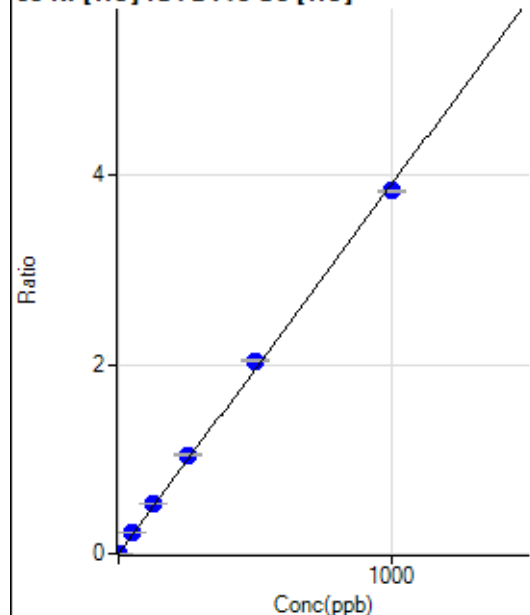
$$R = 0.9998$$

$$DL = 0.003938$$

$$BEC = 0.01072$$

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	130.00	0.0002	P	3.6
2	☐	1.000	1.194	3860.56	0.0048	P	7.2
3	☐	50.000	55.448	164984.59	0.2164	P	2.6
4	☐	125.000	134.244	390261.47	0.5237	P	0.4
5	☐	250.000	268.204	768078.33	1.0460	P	0.4
6	☐	500.000	522.176	1547105.22	2.0364	P	0.7
7	☐	1000.000	982.933	2959379.78	3.8331	P	0.6
8	☐			32280.13	0.0446	P	1.3

$$y = 0.0039 * x + 1.6486E-004$$

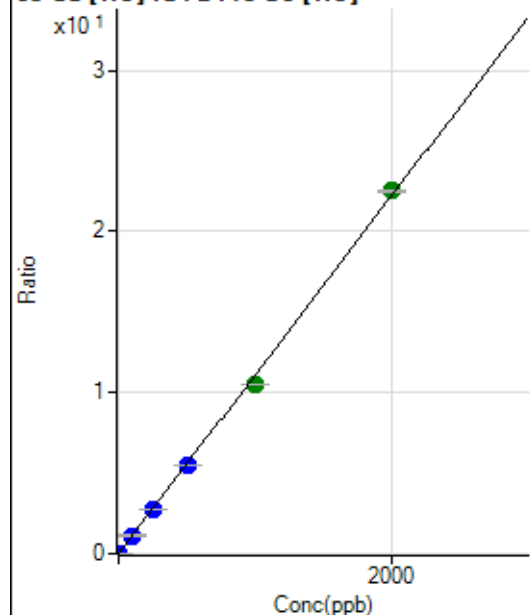
$$R = 0.9994$$

$$DL = 0.004585$$

$$BEC = 0.04228$$

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	1572.34	0.0020	P	0.9
2	☐	2.000	1.985	19259.52	0.0240	P	5.6
3	☐	100.000	101.788	863392.90	1.1324	P	2.4
4	☐	250.000	248.610	2059096.03	2.7629	P	0.2
5	☐	500.000	492.789	4019789.00	5.4745	P	0.4
6	☐	1000.000	947.663	7996726.55	10.5260	A	0.6
7	☐	2000.000	2028.056	17389626.13	22.5239	A	0.8
8	☐			35601.23	0.0492	P	0.5

$$y = 0.0111 * x + 0.0020$$

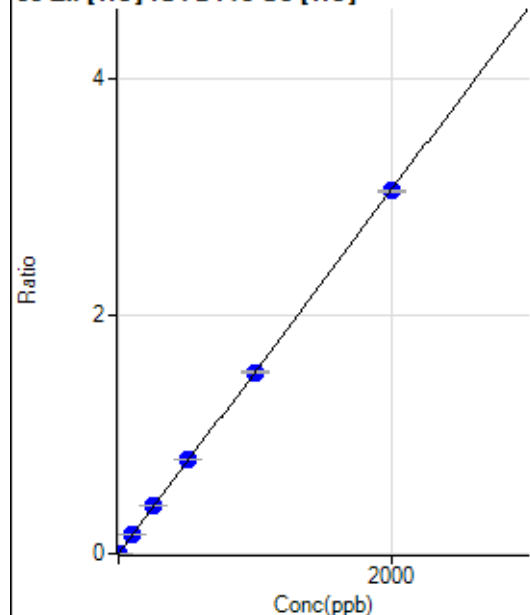
$$R = 0.9995$$

$$DL = 0.004645$$

$$BEC = 0.1795$$

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	446.68	0.0006	P	2.7
2	☐	2.000	2.025	2938.12	0.0037	P	5.1
3	☐	100.000	105.221	123226.78	0.1616	P	2.4
4	☐	250.000	260.379	297437.67	0.3991	P	0.2
5	☐	500.000	521.486	586527.12	0.7987	P	0.2
6	☐	1000.000	998.261	1161258.57	1.5285	P	0.6
7	☐	2000.000	1993.940	2356650.28	3.0525	P	0.8
8	☐			25526.94	0.0353	P	0.7

$$y = 0.0015 * x + 5.6619E-004$$

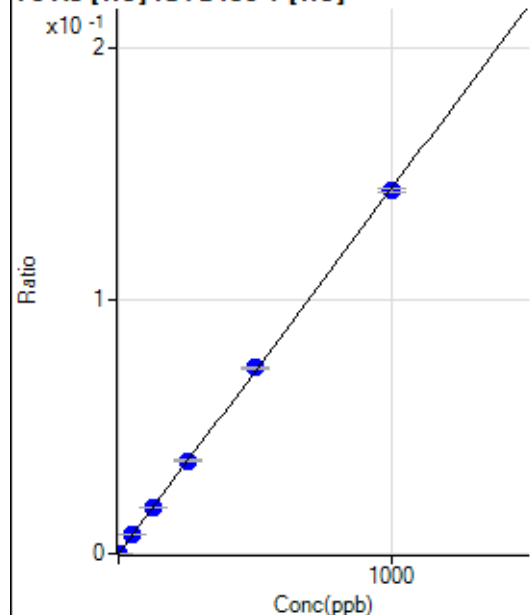
$$R = 0.9999$$

$$DL = 0.02979$$

$$BEC = 0.3699$$

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	6.79	0.0000	P	32.9
2	☐	1.000	1.026	758.67	0.0001	P	5.3
3	☐	50.000	52.185	36605.30	0.0075	P	3.8
4	☐	125.000	127.429	88002.45	0.0184	P	1.6
5	☐	250.000	255.231	174833.96	0.0368	P	0.6
6	☐	500.000	509.492	356841.45	0.0735	P	0.9
7	☐	1000.000	993.533	704155.46	0.1434	P	1.0
8	☐			333.34	0.0001	P	1.9

$$y = 1.4432E-004 * x + 1.3690E-006$$

$$R = 0.9999$$

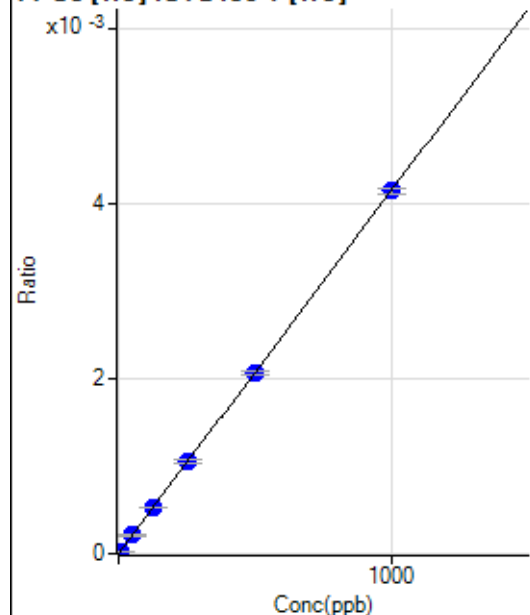
$$DL = 0.009368$$

$$BEC = 0.009486$$

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	☐	5.000	5.401	114.45	0.0000	P	28.2
3	☐	50.000	50.671	1022.28	0.0002	P	12.3
4	☐	125.000	127.343	2532.49	0.0005	P	1.9
5	☐	250.000	255.749	5044.30	0.0011	P	4.8
6	☐	500.000	498.999	10062.53	0.0021	P	2.5
7	☐	1000.000	998.734	20382.32	0.0042	P	1.5
8	☐			12.22	0.0000	P	62.7

$$y = 4.1557\text{E-}006 * x + 0.0000\text{E+}000$$

$$R = 1.0000$$

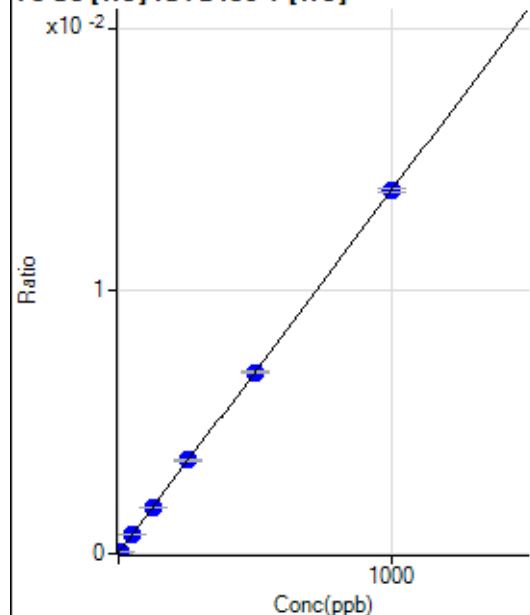
$$DL = 0$$

$$BEC = 0$$

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	124.69	0.0000	P	16.0
2	☐	5.000	5.078	483.96	0.0001	P	4.0
3	☐	50.000	49.721	3458.47	0.0007	P	3.9
4	☐	125.000	127.538	8547.64	0.0018	P	0.8
5	☐	250.000	256.182	16909.93	0.0036	P	1.4
6	☐	500.000	499.072	33570.89	0.0069	P	0.4
7	☐	1000.000	998.615	67844.62	0.0138	P	1.0
8	☐			134.57	0.0000	P	15.0

$$y = 1.3809\text{E-}005 * x + 2.5088\text{E-}005$$

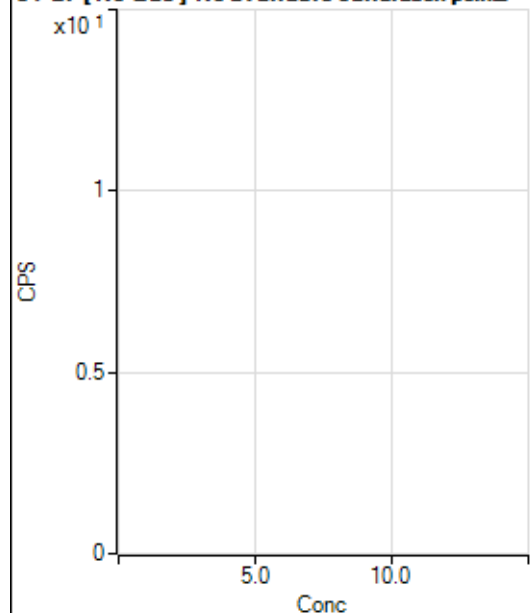
$$R = 1.0000$$

$$DL = 0.873$$

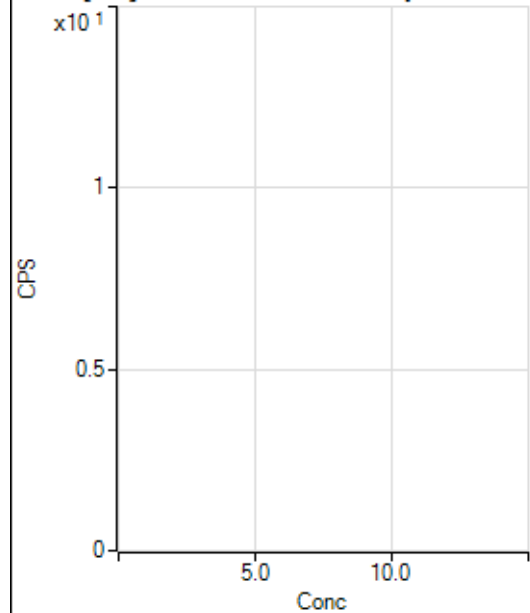
$$BEC = 1.817$$

Weight: <None>

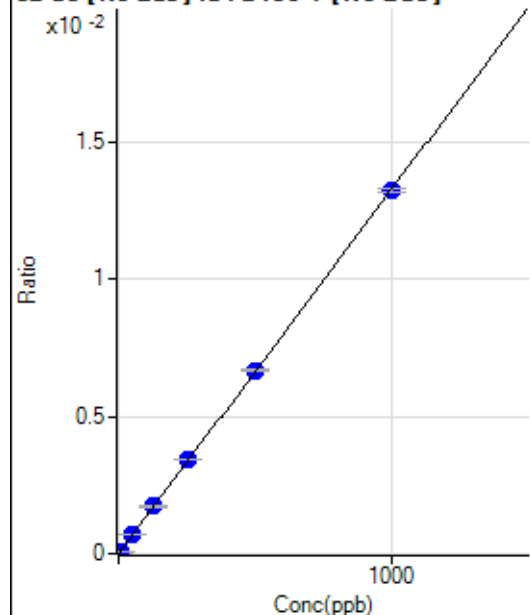
Min Conc: 0

81 Br [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			72971.73		P	0.5
2	☐			72666.26		P	1.6
3	☐			71278.00		P	1.8
4	☐			70892.56		P	0.6
5	☐			70382.59		P	0.3
6	☐			70114.53		P	0.6
7	☐			69813.68		P	0.6
8	☐			65960.97		P	0.5

81 Br [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			110.12		P	39.6
2	☐			156.83		P	18.4
3	☐			96.77		P	15.8
4	☐			103.45		P	14.8
5	☐			103.44		P	63.0
6	☐			83.42		P	34.6
7	☐			86.76		P	35.3
8	☐			93.43		P	43.3

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.88	0.0000	P	21.9
2	☐	5.000	5.468	3041.33	0.0001	P	2.2
3	☐	50.000	51.042	27569.51	0.0007	P	0.8
4	☐	125.000	129.390	69182.88	0.0017	P	0.8
5	☐	250.000	258.060	137125.14	0.0034	P	0.7
6	☐	500.000	502.698	270696.52	0.0067	P	1.0
7	☐	1000.000	996.033	548711.88	0.0132	P	0.9
8	☐			404.75	0.0000	P	10.1

$$y = 1.3268\text{E-}005 * x + 9.5471\text{E-}007$$

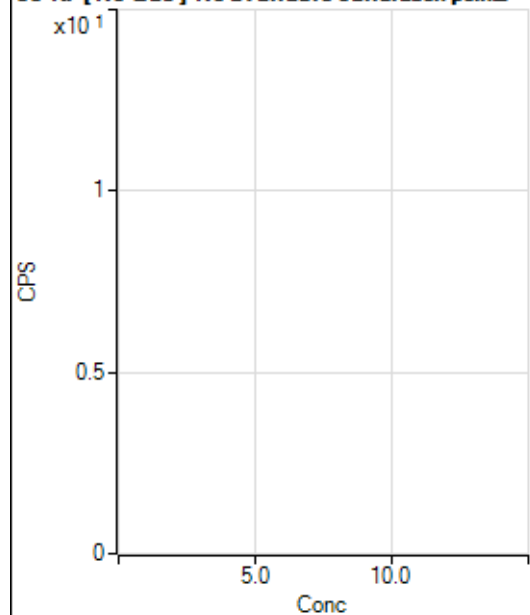
$$R = 1.0000$$

$$DL = 0.04732$$

$$BEC = 0.07196$$

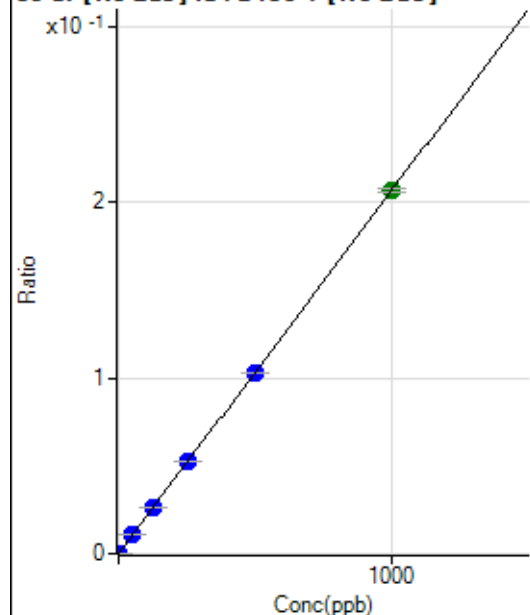
Weight: <None>

Min Conc: 0

83 Kr [No Gas] No available calibration points

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			661.14		P	2.6
2	☐			645.58		P	2.3
3	☐			671.14		P	3.0
4	☐			688.92		P	11.9
5	☐			716.70		P	8.1
6	☐			735.59		P	6.2
7	☐			781.15		P	7.3
8	☐			794.48		P	4.8

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1119.54	0.0000	P	3.2
2	☐	1.000	1.007	9734.26	0.0002	P	1.3
3	☐	50.000	50.775	426966.42	0.0105	P	0.9
4	☐	125.000	126.858	1055253.23	0.0262	P	0.4
5	☐	250.000	252.969	2090721.62	0.0522	P	0.5
6	☐	500.000	498.496	4174614.50	0.1029	P	0.8
7	☐	1000.000	999.738	8564441.34	0.2063	A	1.1
8	☐			16284.81	0.0005	P	1.4

$$y = 2.0631\text{E-}004 * x + 2.7479\text{E-}005$$

$$R = 1.0000$$

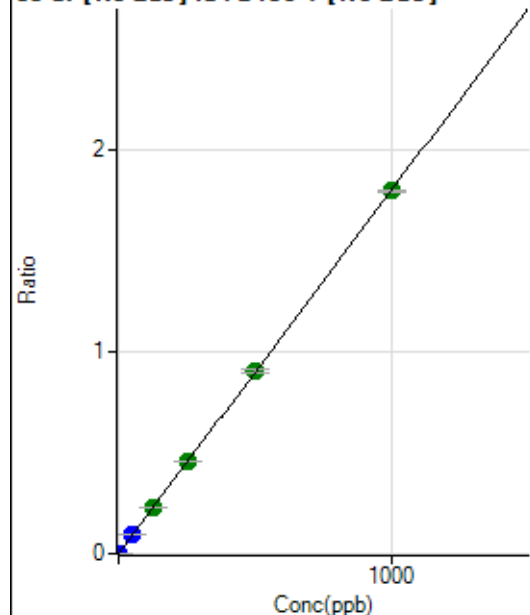
$$DL = 0.01277$$

$$BEC = 0.1332$$

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	222.23	0.0000	P	21.4
2	☐	1.000	0.992	74041.78	0.0018	P	2.2
3	☐	50.000	50.786	3711620.96	0.0913	P	0.9
4	☐	125.000	125.632	9096651.51	0.2259	A	0.4
5	☐	250.000	252.728	18190467.25	0.4543	A	0.6
6	☐	500.000	502.024	36620998.39	0.9025	A	1.6
7	☐	1000.000	998.188	74501423.88	1.7944	A	0.8
8	☐			132728.90	0.0037	P	1.3

$$y = 0.0018 * x + 5.4525\text{E-}006$$

$$R = 1.0000$$

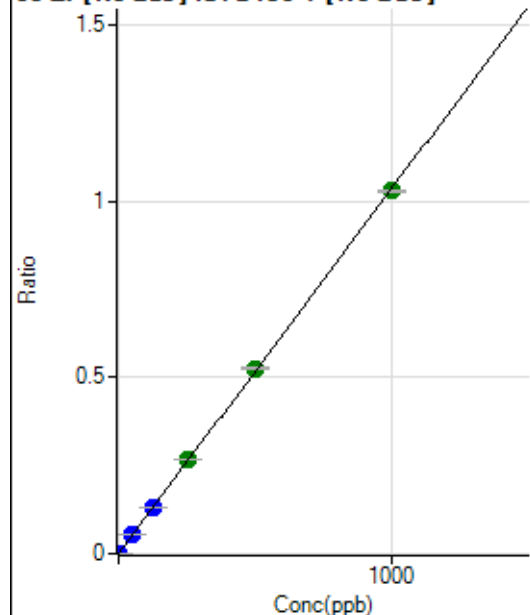
$$DL = 0.001946$$

$$BEC = 0.003033$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2139.16	0.0001	P	7.4
2	☐	1.000	0.820	37305.28	0.0009	P	2.1
3	☐	50.000	50.432	2124514.87	0.0523	P	0.6
4	☐	125.000	128.369	5354432.72	0.1329	P	0.4
5	☐	250.000	256.513	10633866.38	0.2656	A	0.7
6	☐	500.000	507.019	21301241.79	0.5249	A	0.9
7	☐	1000.000	994.420	42742875.26	1.0295	A	0.7
8	☐			11947.12	0.0003	P	5.9

$$y = 0.0010 * x + 5.2528E-005$$

$$R = 0.9999$$

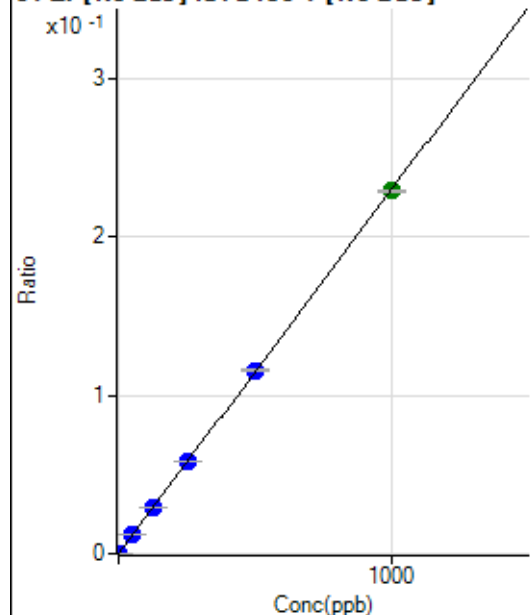
$$DL = 0.01133$$

$$BEC = 0.05074$$

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	444.47	0.0000	P	6.3
2	☐	1.000	0.787	7927.53	0.0002	P	1.4
3	☐	50.000	50.956	476161.83	0.0117	P	0.4
4	☐	125.000	128.670	1190561.97	0.0296	P	0.5
5	☐	250.000	254.689	2342188.18	0.0585	P	0.7
6	☐	500.000	503.754	4694974.89	0.1157	P	0.8
7	☐	1000.000	996.445	9501143.27	0.2288	A	0.6
8	☐			2486.43	0.0001	P	2.7

$$y = 2.2964E-004 * x + 1.0911E-005$$

$$R = 1.0000$$

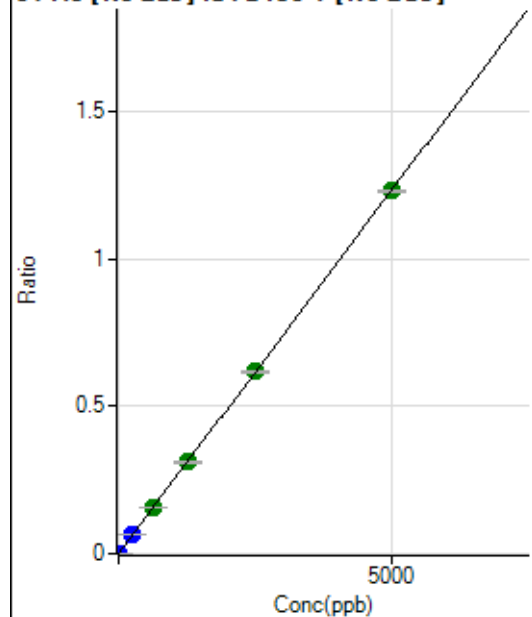
$$DL = 0.008984$$

$$BEC = 0.04751$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	783.39	0.0000	P	7.0
2	☐	5.000	4.924	50950.25	0.0012	P	1.0
3	☐	250.000	253.013	2532487.27	0.0623	P	0.9
4	☐	625.000	627.115	6217709.56	0.1544	A	1.1
5	☐	1250.000	1259.045	12408703.05	0.3099	A	0.6
6	☐	2500.000	2505.652	25028168.44	0.6168	A	1.0
7	☐	5000.000	4994.498	51041515.72	1.2294	A	0.9
8	☐			26845.42	0.0007	P	3.5

$$y = 2.4614\text{E-}004 * x + 1.9230\text{E-}005$$

$$R = 1.0000$$

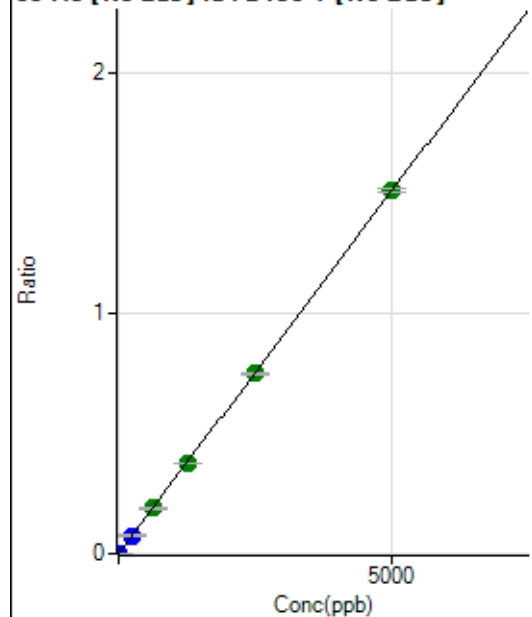
$$DL = 0.01643$$

$$BEC = 0.07812$$

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	108.34	0.0000	P	42.1
2	☐	5.000	5.186	64864.94	0.0016	P	1.0
3	☐	250.000	251.101	3080315.72	0.0758	P	0.8
4	☐	625.000	624.332	7587657.29	0.1884	A	0.9
5	☐	1250.000	1252.841	15136008.67	0.3780	A	0.6
6	☐	2500.000	2490.077	30490192.00	0.7514	A	1.1
7	☐	5000.000	5004.279	62691465.29	1.5100	A	1.2
8	☐			39188.20	0.0011	P	2.9

$$y = 3.0174\text{E-}004 * x + 2.6538\text{E-}006$$

$$R = 1.0000$$

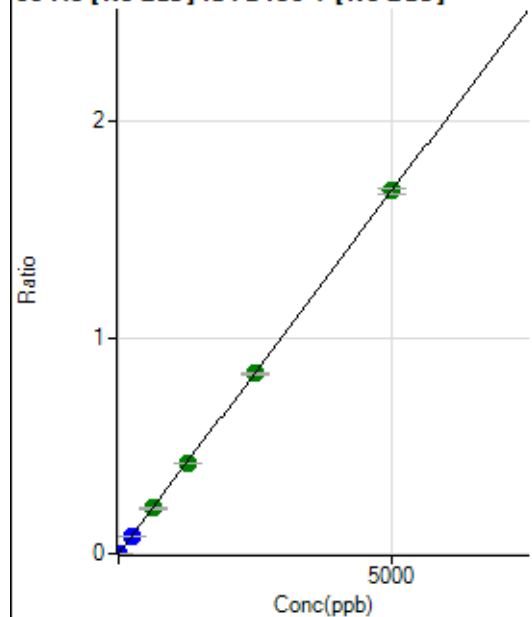
$$DL = 0.0111$$

$$BEC = 0.008795$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	388.91	0.0000	P	7.1
2	☐	5.000	5.147	71817.01	0.0017	P	1.6
3	☐	250.000	249.367	3400171.82	0.0836	P	0.5
4	☐	625.000	624.455	8435194.11	0.2094	A	0.7
5	☐	1250.000	1252.326	16815813.74	0.4200	A	0.6
6	☐	2500.000	2490.808	33897649.02	0.8353	A	1.1
7	☐	5000.000	5004.114	69673917.53	1.6782	A	1.4
8	☐			68822.60	0.0019	P	1.6

$$y = 3.3536E-004 * x + 9.5489E-006$$

$$R = 1.0000$$

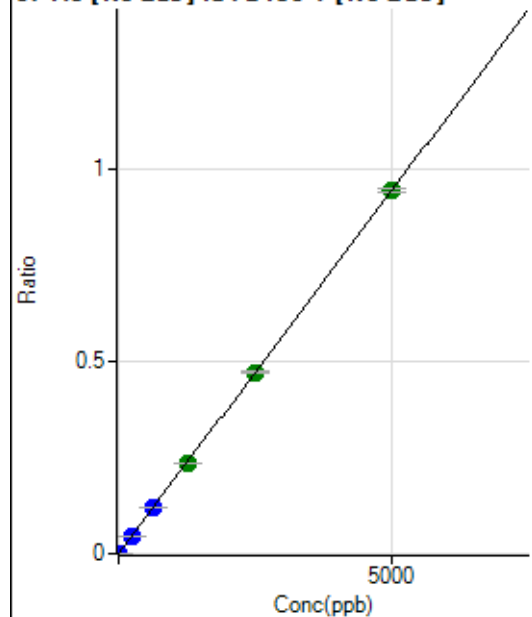
$$DL = 0.006059$$

$$BEC = 0.02847$$

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	119.45	0.0000	P	17.8
2	☐	5.000	5.069	39686.58	0.0010	P	2.0
3	☐	250.000	249.234	1911362.39	0.0470	P	0.5
4	☐	625.000	625.375	4751334.44	0.1180	P	0.5
5	☐	1250.000	1250.604	9444996.82	0.2359	A	0.7
6	☐	2500.000	2498.885	19127505.81	0.4714	A	1.2
7	☐	5000.000	5000.398	39160195.66	0.9432	A	1.1
8	☐			24107.39	0.0007	P	1.3

$$y = 1.8863E-004 * x + 2.9327E-006$$

$$R = 1.0000$$

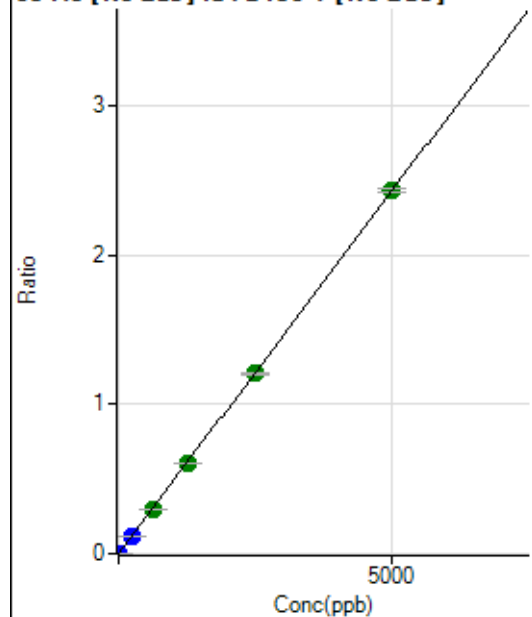
$$DL = 0.008299$$

$$BEC = 0.01555$$

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	158.34	0.0000	P	18.5
2	☐	5.000	5.121	102945.55	0.0025	P	0.8
3	☐	250.000	248.830	4906903.45	0.1207	P	0.2
4	☐	625.000	621.622	12144489.59	0.3015	A	0.6
5	☐	1250.000	1243.345	24146640.12	0.6031	A	0.6
6	☐	2500.000	2489.041	48993499.01	1.2073	A	0.7
7	☐	5000.000	5007.624	100846071.00	2.4289	A	0.9
8	☐			59254.76	0.0016	P	1.3

$$y = 4.8505E-004 * x + 3.8844E-006$$

$$R = 1.0000$$

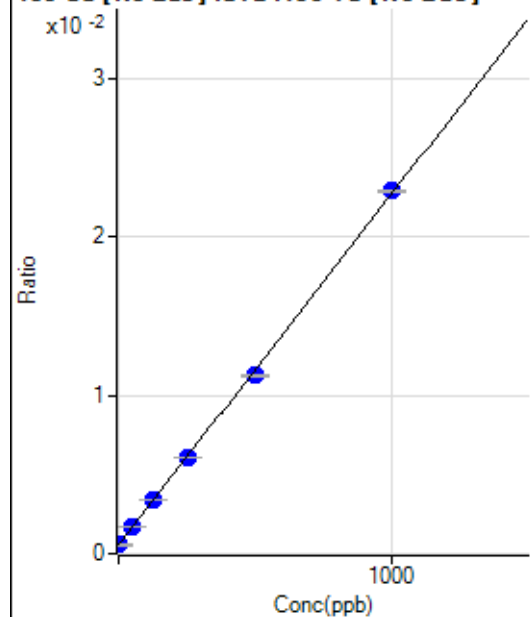
$$DL = 0.00444$$

$$BEC = 0.008008$$

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	19525.24	0.0006	P	1.4
2	☐	1.000	-0.127	19948.25	0.0005	P	1.4
3	☐	50.000	50.212	60290.15	0.0017	P	2.6
4	☐	125.000	126.799	121291.60	0.0034	P	0.4
5	☐	250.000	248.426	220328.60	0.0061	P	0.7
6	☐	500.000	482.155	413495.63	0.0112	P	0.2
7	☐	1000.000	1009.082	854737.90	0.0229	P	0.7
8	☐			17133.19	0.0005	P	2.9

$$y = 2.2168E-005 * x + 5.5046E-004$$

$$R = 0.9998$$

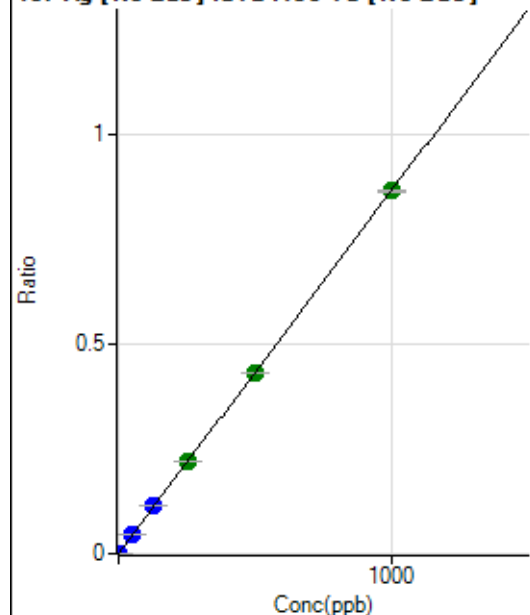
$$DL = 1.039$$

$$BEC = 24.83$$

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	405.58	0.0000	P	12.5
2	☐	1.000	1.101	35072.10	0.0010	P	1.9
3	☐	50.000	53.564	1678330.14	0.0463	P	1.8
4	☐	125.000	131.395	4098196.84	0.1136	P	0.9
5	☐	250.000	254.996	8016737.42	0.2204	A	0.1
6	☐	500.000	496.960	15803052.44	0.4295	A	0.4
7	☐	1000.000	999.293	32208944.47	0.8637	A	0.8
8	☐			6896.42	0.0002	P	1.4

$$y = 8.6431E-004 * x + 1.1436E-005$$

$$R = 1.0000$$

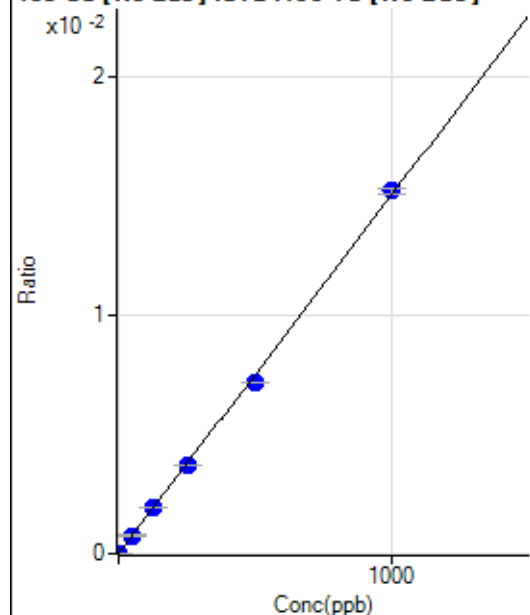
$$DL = 0.00496$$

$$BEC = 0.01323$$

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	41.67	0.0000	P	25.0
2	☐	1.000	0.950	563.91	0.0000	P	10.0
3	☐	50.000	50.859	27794.23	0.0008	P	1.1
4	☐	125.000	126.981	69023.03	0.0019	P	0.7
5	☐	250.000	246.870	135224.09	0.0037	P	1.1
6	☐	500.000	477.440	264492.91	0.0072	P	0.5
7	☐	1000.000	1011.772	568050.63	0.0152	P	1.4
8	☐			173.62	0.0000	P	7.2

$$y = 1.5055E-005 * x + 1.1723E-006$$

$$R = 0.9996$$

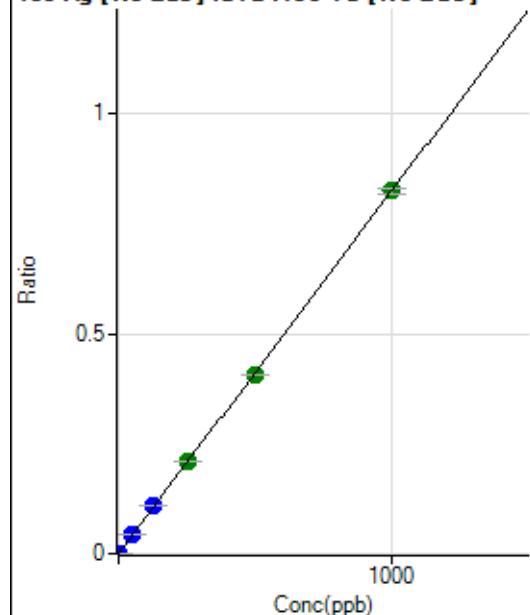
$$DL = 0.0585$$

$$BEC = 0.07787$$

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	113.89	0.0000	P	20.9
2	☐	1.000	1.087	32738.92	0.0009	P	0.9
3	☐	50.000	53.344	1592707.96	0.0439	P	1.4
4	☐	125.000	132.660	3943141.19	0.1093	P	0.7
5	☐	250.000	254.872	7636231.07	0.2099	A	0.6
6	☐	500.000	493.566	14958239.05	0.4066	A	0.5
7	☐	1000.000	1000.874	30743860.06	0.8244	A	1.5
8	☐			6229.45	0.0002	P	4.4

$$y = 8.2372\text{E-}004 * x + 3.2053\text{E-}006$$

$$R = 0.9999$$

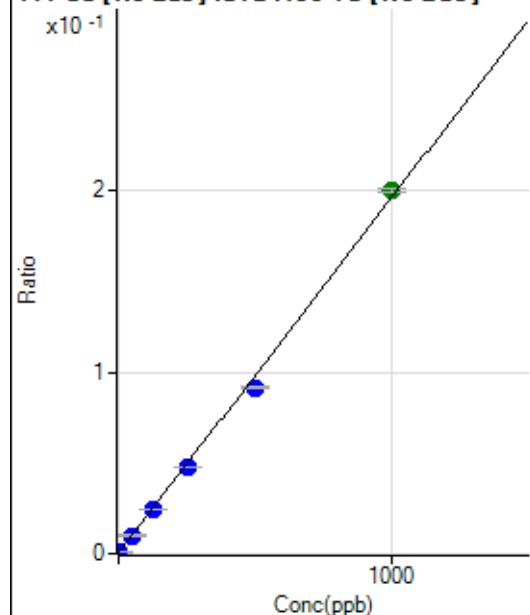
$$DL = 0.002445$$

$$BEC = 0.003891$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	13670.45	0.0004	P	1.3
2	☐	1.000	0.898	20438.88	0.0006	P	0.5
3	☐	50.000	49.375	364150.50	0.0100	P	0.9
4	☐	125.000	124.671	894143.41	0.0248	P	0.7
5	☐	250.000	239.809	1720803.02	0.0473	P	0.6
6	☐	500.000	466.298	3370984.39	0.0916	P	0.5
7	☐	1000.000	1019.471	7453237.67	0.1999	A	1.1
8	☐			13225.96	0.0004	P	1.9

$$y = 1.9567\text{E-}004 * x + 3.8541\text{E-}004$$

$$R = 0.9991$$

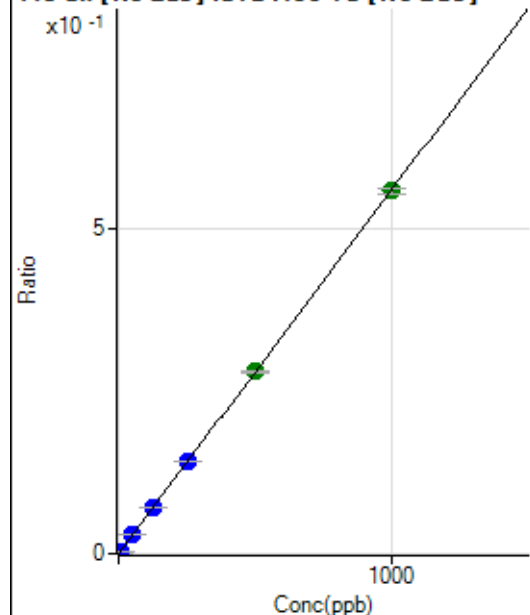
$$DL = 0.07824$$

$$BEC = 1.97$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1836.31	0.0001	P	3.5
2	☐	5.000	5.143	106759.08	0.0029	P	2.0
3	☐	50.000	51.188	1040698.84	0.0287	P	0.8
4	☐	125.000	128.620	2600355.20	0.0721	P	0.9
5	☐	250.000	252.714	5148513.05	0.1415	P	0.3
6	☐	500.000	501.468	10331547.19	0.2808	A	0.8
7	☐	1000.000	998.075	20840935.71	0.5589	A	1.5
8	☐			14015.94	0.0004	P	4.4

$$y = 5.5991\text{E-}004 * x + 5.1782\text{E-}005$$

$$R = 1.0000$$

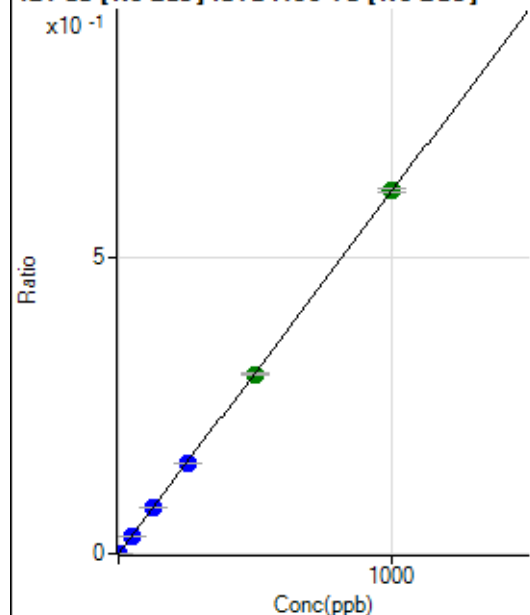
$$DL = 0.009833$$

$$BEC = 0.09248$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	152.79	0.0000	P	32.0
2	☐	2.000	2.003	44722.27	0.0012	P	1.4
3	☐	50.000	50.166	1110947.35	0.0306	P	0.2
4	☐	125.000	127.110	2801961.87	0.0777	P	0.5
5	☐	250.000	250.335	5562354.68	0.1529	P	0.2
6	☐	500.000	495.799	11142575.94	0.3029	A	0.9
7	☐	1000.000	1001.745	22819873.25	0.6119	A	1.1
8	☐			27678.35	0.0009	P	9.3

$$y = 6.1087\text{E-}004 * x + 4.3195\text{E-}006$$

$$R = 1.0000$$

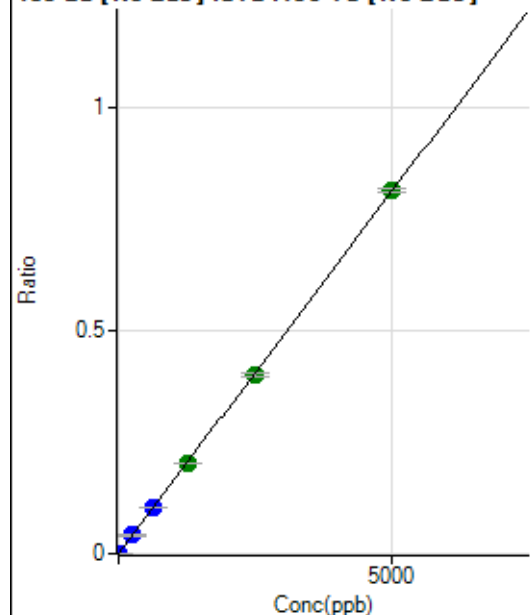
$$DL = 0.006779$$

$$BEC = 0.007071$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	38.89	0.0000	P	45.6
2	☐	10.000	10.159	60008.17	0.0016	P	2.2
3	☐	250.000	253.726	1490414.03	0.0411	P	1.1
4	☐	625.000	636.728	3723436.15	0.1032	P	0.4
5	☐	1250.000	1245.881	7343778.64	0.2019	A	0.8
6	☐	2500.000	2470.697	14730484.36	0.4004	A	1.3
7	☐	5000.000	5014.029	30301651.02	0.8126	A	1.2
8	☐			48321.03	0.0015	P	1.1

$$y = 1.6206E-004 * x + 1.1001E-006$$

$$R = 1.0000$$

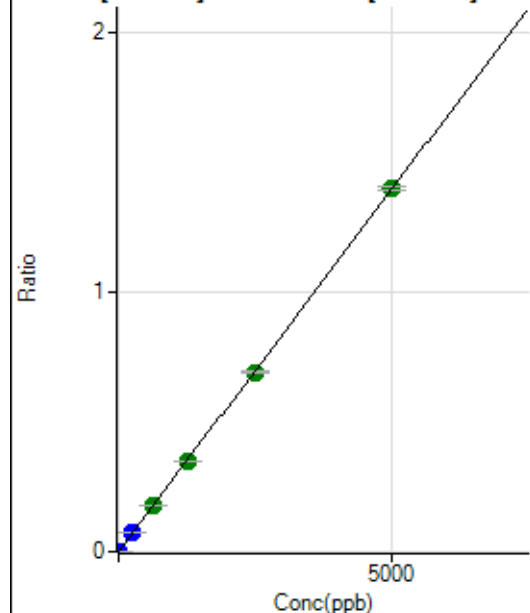
$$DL = 0.009286$$

$$BEC = 0.006788$$

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	55.56	0.0000	P	18.2
2	☐	10.000	10.251	104380.62	0.0029	P	1.4
3	☐	250.000	254.873	2581481.07	0.0712	P	0.7
4	☐	625.000	634.692	6399439.12	0.1774	A	1.0
5	☐	1250.000	1254.086	12745907.23	0.3504	A	0.7
6	☐	2500.000	2476.736	25461716.54	0.6921	A	0.6
7	☐	5000.000	5009.155	52197495.26	1.3997	A	0.9
8	☐			82952.96	0.0026	P	1.6

$$y = 2.7943E-004 * x + 1.5681E-006$$

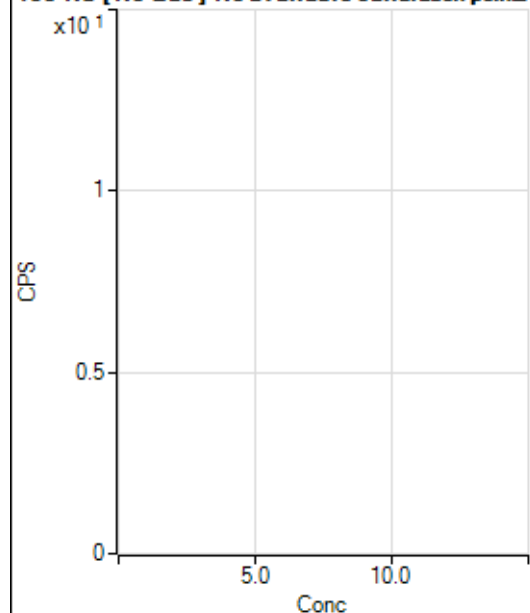
$$R = 1.0000$$

$$DL = 0.003072$$

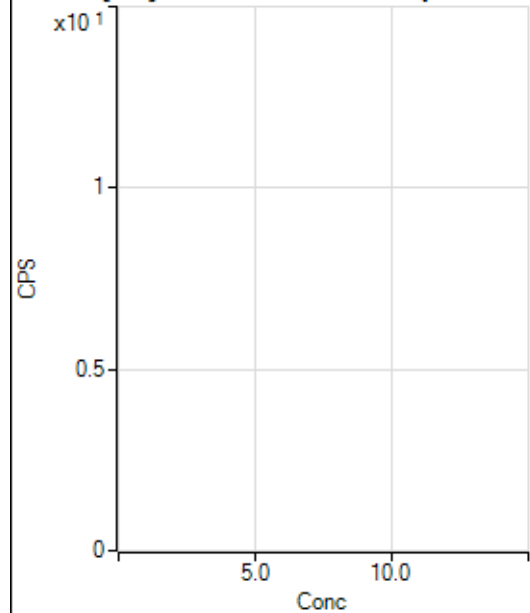
$$BEC = 0.005612$$

Weight: <None>

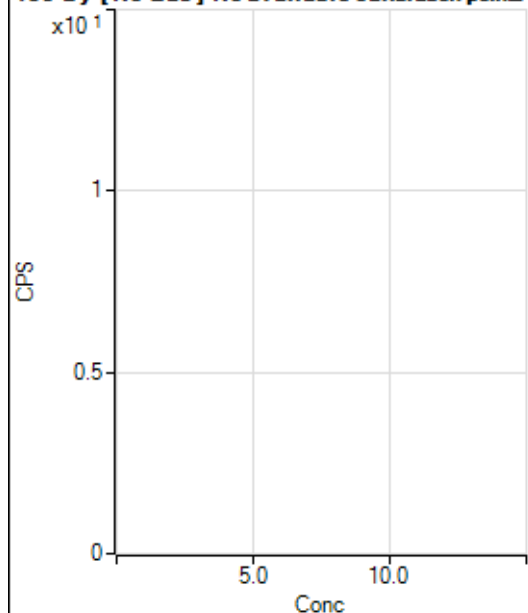
Min Conc: 0

150 Nd [No Gas] No available calibration points

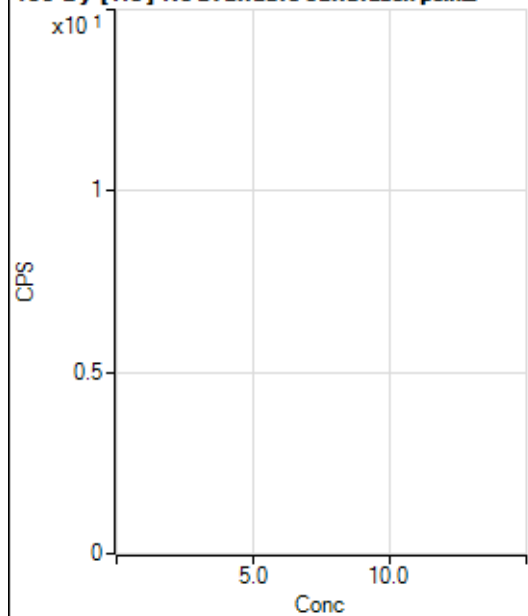
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			8.89		P	43.3
2	☐			15.56		P	65.5
3	☐			182.23		P	7.6
4	☐			413.35		P	28.4
5	☐			866.73		P	10.0
6	☐			1651.27		P	9.6
7	☐			3396.08		P	4.5
8	☐			235.57		P	26.3

150 Nd [He] No available calibration points

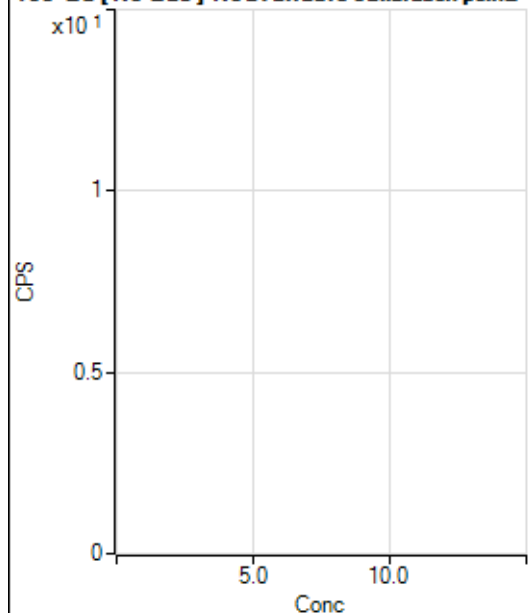
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			7.78		P	49.5
2	☐			7.78		P	107.
3	☐			18.89		P	56.7
4	☐			43.34		P	26.6
5	☐			76.67		P	11.5
6	☐			150.00		P	8.0
7	☐			257.78		P	12.4
8	☐			84.45		P	2.3

156 Dy [No Gas] No available calibration points

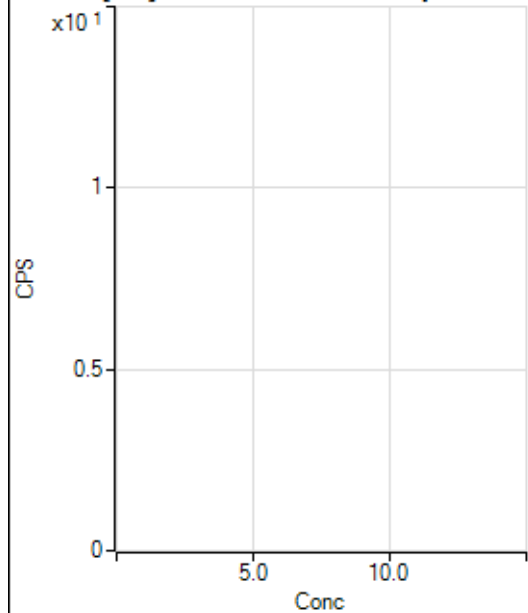
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			44.45		P	39.0
2	☐			36.11		P	13.3
3	☐			69.45		P	50.0
4	☐			144.45		P	35.3
5	☐			280.57		P	28.1
6	☐			505.59		P	16.5
7	☐			1011.20		P	2.5
8	☐			1475.15		P	6.4

156 Dy [He] No available calibration points

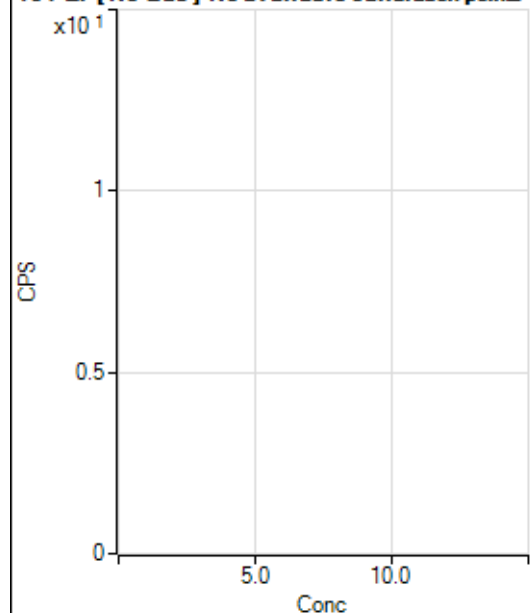
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			18.89		P	44.4
2	☐			20.00		P	44.1
3	☐			58.89		P	28.5
4	☐			91.11		P	13.8
5	☐			172.23		P	18.0
6	☐			332.23		P	12.7
7	☐			655.58		P	5.4
8	☐			734.48		P	4.5

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

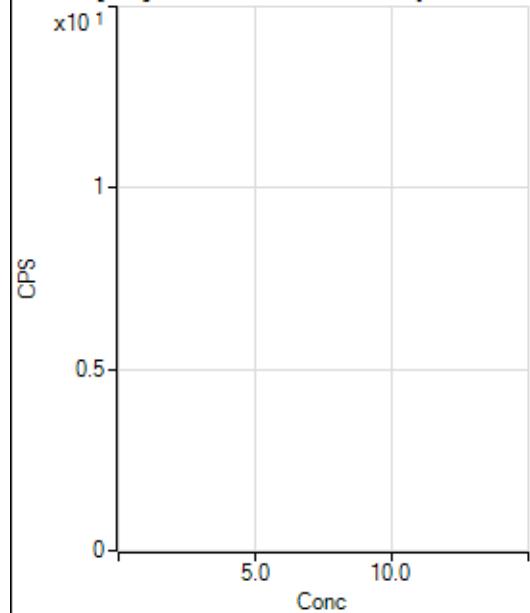
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			202.79		P	10.3
2	☐			247.23		P	18.6
3	☐			241.68		P	11.9
4	☐			300.02		P	8.3
5	☐			355.58		P	15.3
6	☐			450.03		P	12.1
7	☐			536.14		P	14.9
8	☐			1594.60		P	1.6

160 Gd [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			468.91		P	2.7
2	☐			488.91		P	8.8
3	☐			514.46		P	5.5
4	☐			480.02		P	3.9
5	☐			467.79		P	8.9
6	☐			580.02		P	4.0
7	☐			651.14		P	1.3
8	☐			1216.74		P	6.3

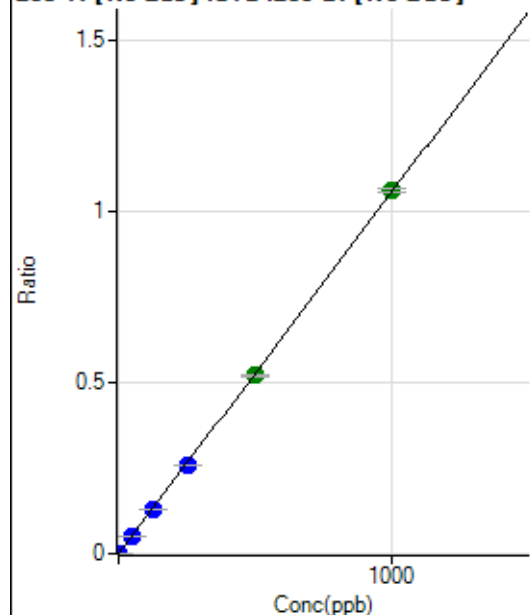
164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			197.23		P	24.8
2	☐			147.23		P	38.5
3	☐			155.56		P	11.2
4	☐			208.34		P	6.9
5	☐			208.35		P	14.4
6	☐			230.57		P	5.5
7	☐			286.13		P	13.8
8	☐			316.69		P	31.9

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			77.78		P	8.9
2	☐			93.34		P	12.9
3	☐			96.67		P	21.5
4	☐			102.23		P	12.3
5	☐			102.22		P	19.9
6	☐			126.67		P	12.1
7	☐			132.23		P	8.9
8	☐			170.00		P	12.9

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	652.82	0.0000	P	22.8
2	☐	1.000	0.949	23221.02	0.0010	P	3.1
3	☐	50.000	48.631	1141321.15	0.0513	P	0.4
4	☐	125.000	123.480	2860052.82	0.1301	P	1.3
5	☐	250.000	246.059	5691066.32	0.2592	P	0.4
6	☐	500.000	493.693	11247491.40	0.5201	A	0.7
7	☐	1000.000	1004.397	22556088.87	1.0581	A	1.0
8	☐			5026.16	0.0003	P	8.1

$$y = 0.0011 * x + 2.9589E-005$$

$$R = 1.0000$$

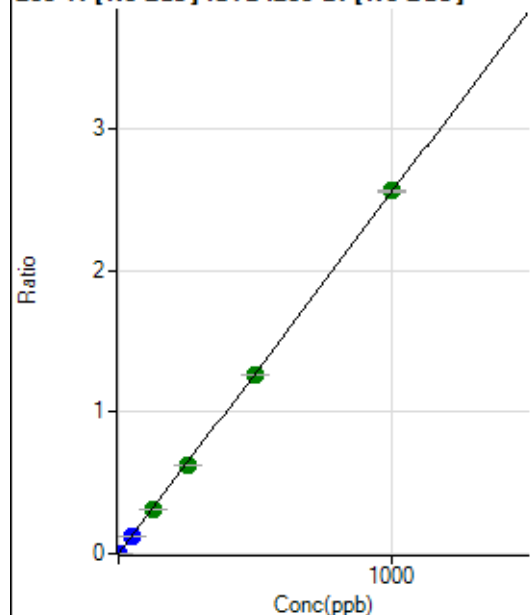
$$DL = 0.01919$$

$$BEC = 0.02809$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1241.78	0.0001	P	3.0
2	☐	1.000	0.931	54775.09	0.0024	P	0.8
3	☐	50.000	48.500	2751985.41	0.1236	P	1.0
4	☐	125.000	121.985	6831966.91	0.3108	A	1.4
5	☐	250.000	244.114	13652701.52	0.6219	A	0.2
6	☐	500.000	494.866	27262395.05	1.2607	A	0.9
7	☐	1000.000	1004.491	54550269.27	2.5589	A	0.7
8	☐			12222.80	0.0007	P	0.6

$$y = 0.0025 * x + 5.6273E-005$$

$$R = 1.0000$$

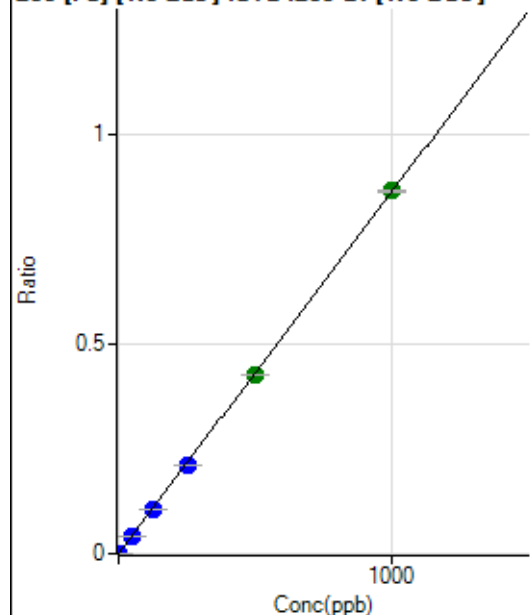
$$DL = 0.001995$$

$$BEC = 0.02209$$

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	1337.15	0.0001	P	9.6
2	☐	1.000	0.953	19896.81	0.0009	P	0.7
3	☐	50.000	48.870	938766.13	0.0422	P	1.1
4	☐	125.000	123.152	2333630.23	0.1062	P	1.4
5	☐	250.000	245.878	4651640.90	0.2119	P	1.0
6	☐	500.000	495.387	9231019.82	0.4269	A	0.7
7	☐	1000.000	1003.625	18434315.34	0.8647	A	0.5
8	☐			72186.09	0.0044	P	1.4

$$y = 8.6155\text{E-}004 * x + 6.0598\text{E-}005$$

$$R = 1.0000$$

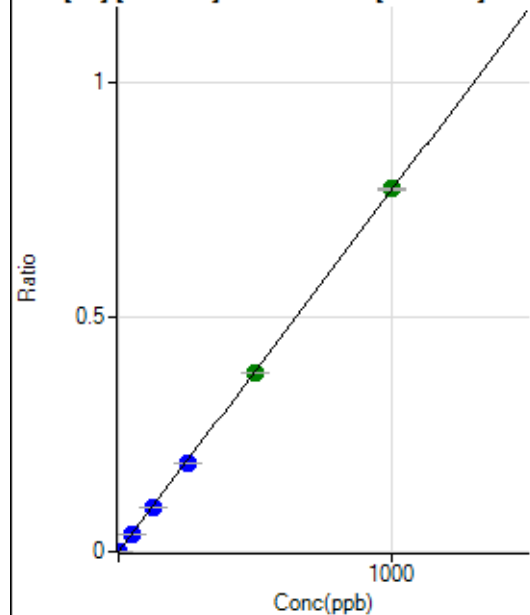
$$DL = 0.02022$$

$$BEC = 0.07034$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1351.96	0.0001	P	7.6
2	☐	1.000	0.948	17862.41	0.0008	P	0.4
3	☐	50.000	48.568	834176.77	0.0375	P	1.0
4	☐	125.000	123.152	2086265.67	0.0949	P	1.3
5	☐	250.000	245.369	4149777.18	0.1890	P	1.1
6	☐	500.000	494.846	8243083.86	0.3812	A	0.4
7	☐	1000.000	1004.037	16485828.38	0.7733	A	0.6
8	☐			65248.80	0.0040	P	2.2

$$y = 7.7016\text{E-}004 * x + 6.1247\text{E-}005$$

$$R = 1.0000$$

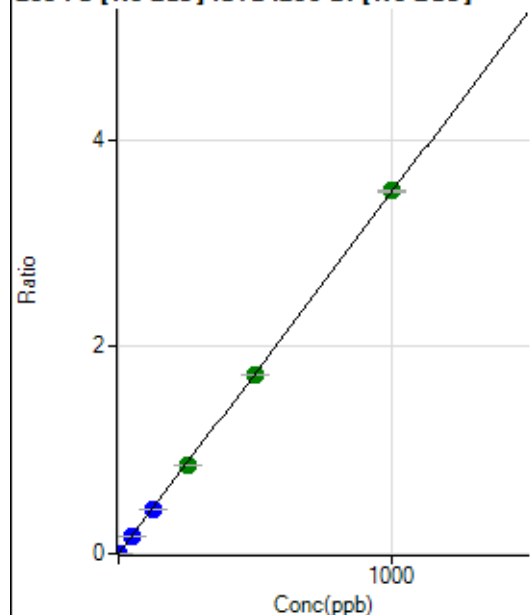
$$DL = 0.01813$$

$$BEC = 0.07952$$

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	5269.06	0.0002	P	6.1
2	☐	1.000	0.949	80240.45	0.0036	P	0.8
3	☐	50.000	48.824	3803775.45	0.1708	P	0.9
4	☐	125.000	123.461	9488501.80	0.4316	P	1.1
5	☐	250.000	245.461	18834190.53	0.8579	A	0.7
6	☐	500.000	494.015	37335711.77	1.7265	A	0.4
7	☐	1000.000	1004.378	74821780.73	3.5098	A	0.7
8	☐			293014.30	0.0178	P	1.4

$$y = 0.0035 * x + 2.3879E-004$$

$$R = 1.0000$$

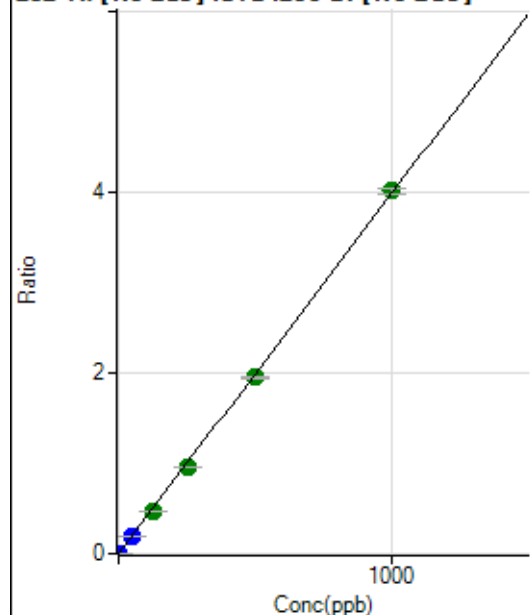
$$DL = 0.01245$$

$$BEC = 0.06834$$

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	2328.06	0.0001	P	12.6
2	☐	1.000	0.693	64651.95	0.0029	P	2.5
3	☐	50.000	45.702	4055833.05	0.1822	P	1.0
4	☐	125.000	117.450	10287450.00	0.4680	A	0.6
5	☐	250.000	240.917	21070801.86	0.9598	A	0.4
6	☐	500.000	490.604	42265858.82	1.9545	A	0.9
7	☐	1000.000	1008.128	85610733.40	4.0161	A	1.3
8	☐			18161.16	0.0011	P	8.4

$$y = 0.0040 * x + 1.0550E-004$$

$$R = 0.9999$$

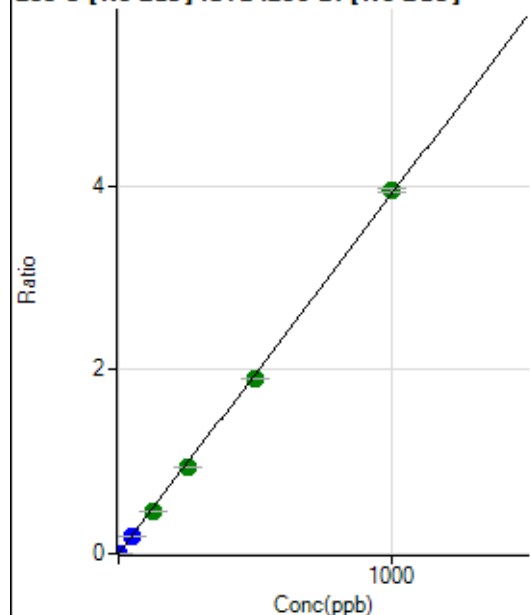
$$DL = 0.01004$$

$$BEC = 0.02648$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1672.40	0.0001	P	11.6
2	☐	1.000	0.889	80091.04	0.0035	P	1.1
3	☐	50.000	47.055	4092015.24	0.1838	P	1.1
4	☐	125.000	118.313	10156001.01	0.4620	A	0.8
5	☐	250.000	239.588	20536841.43	0.9355	A	0.6
6	☐	500.000	487.729	41181130.44	1.9043	A	0.8
7	☐	1000.000	1009.722	84038748.41	3.9423	A	1.2
8	☐			10474.10	0.0006	P	1.3

$$y = 0.0039 * x + 7.5797E-005$$

R = 0.9998

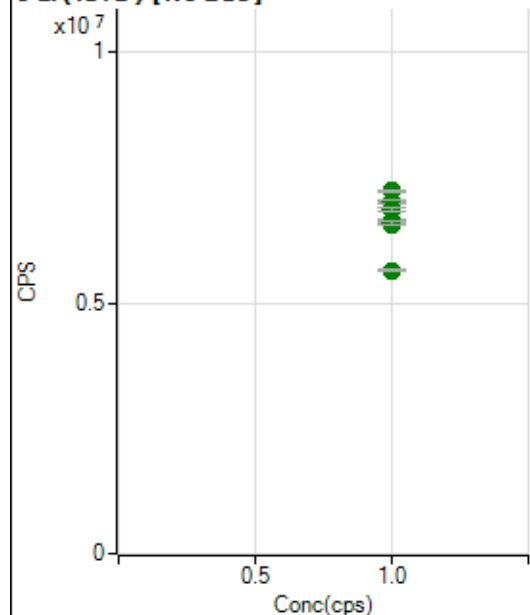
DL = 0.006739

BEC = 0.01941

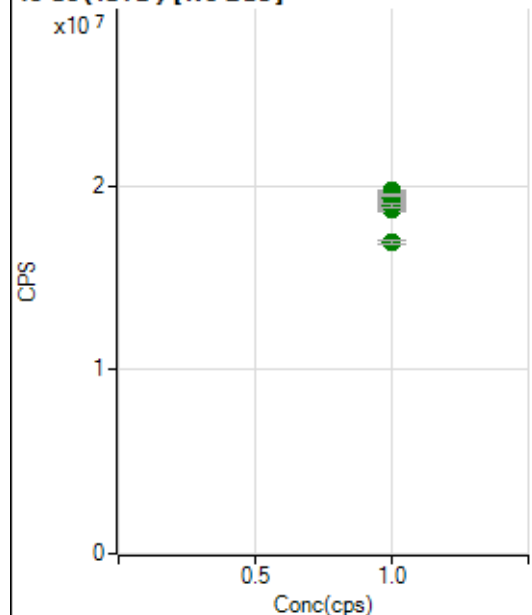
Weight: <None>

Min Conc: 0

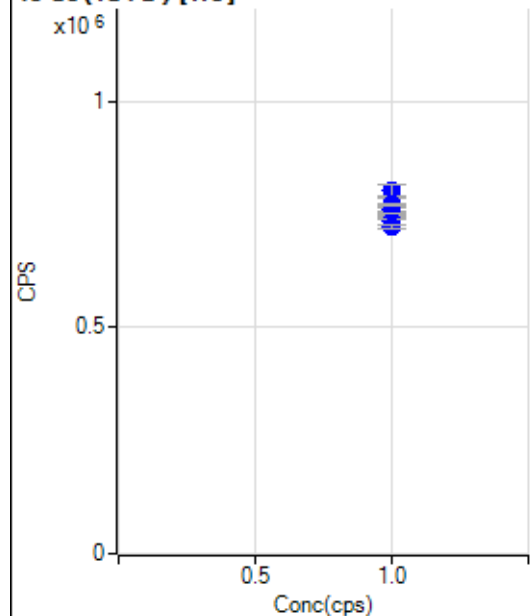
6 Li (ISTD) [No Gas]



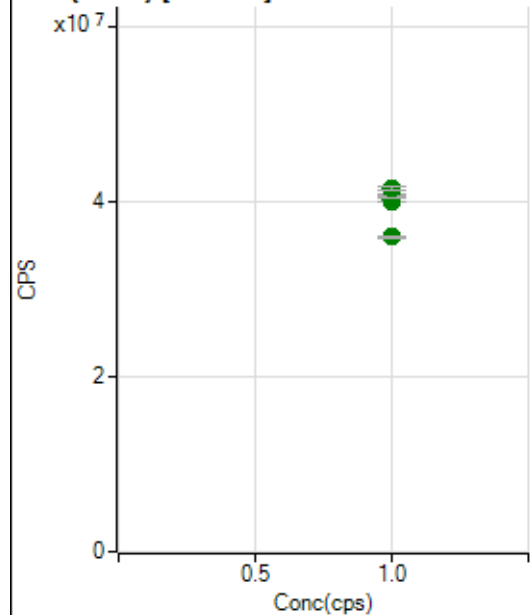
	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7004821.28		A	0.4
2	☐	1.000		7241501.91		A	0.3
3	☐	1.000		7019493.44		A	0.7
4	☐	1.000		6877332.60		A	1.0
5	☐	1.000		6633973.44		A	0.8
6	☐	1.000		6568584.42		A	0.5
7	☐	1.000		6609464.56		A	1.0
8	☐	1.000		5658305.96		A	1.1

45 Sc (ISTD) [No Gas]

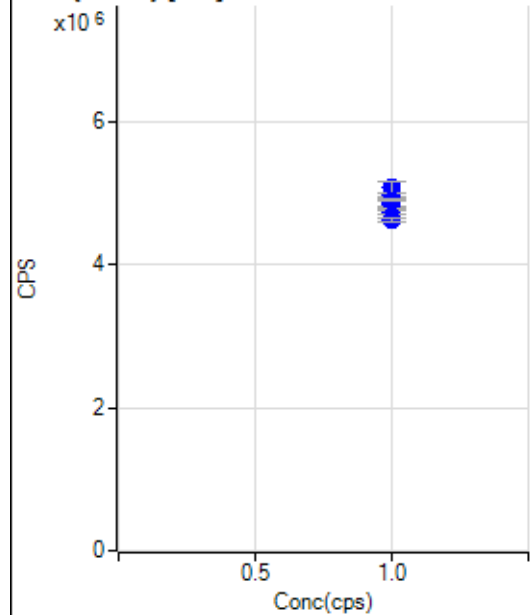
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		19454391.58		A	1.0
2	☐	1.000		19751762.25		A	0.2
3	☐	1.000		19385439.67		A	1.6
4	☐	1.000		19032681.85		A	1.0
5	☐	1.000		18689841.04		A	0.5
6	☐	1.000		18972218.65		A	0.9
7	☐	1.000		19528231.51		A	0.7
8	☐	1.000		16967456.11		A	1.4

45 Sc (ISTD) [He]

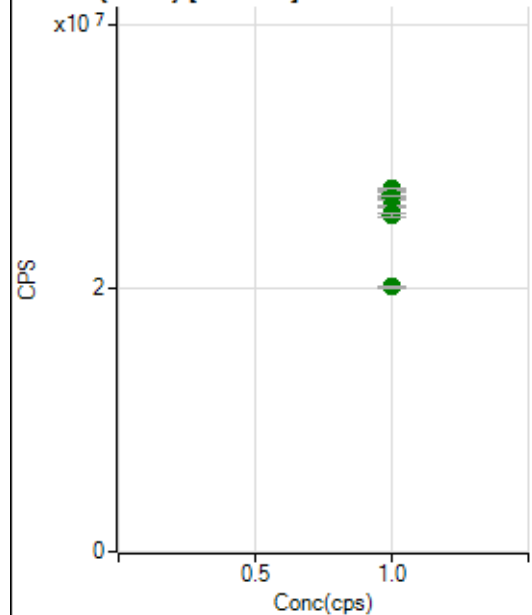
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		788774.75		P	1.0
2	☐	1.000		802290.95		P	3.1
3	☐	1.000		762717.99		P	2.0
4	☐	1.000		745278.12		P	0.4
5	☐	1.000		734298.65		P	1.4
6	☐	1.000		759766.74		P	1.7
7	☐	1.000		772070.92		P	0.5
8	☐	1.000		723684.80		P	1.2

89 Y (ISTD) [No Gas]

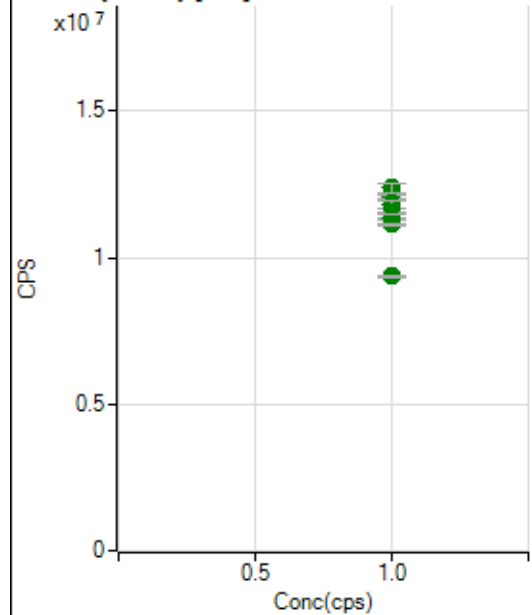
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		40739598.56		A	0.8
2	☐	1.000		41379482.99		A	0.3
3	☐	1.000		40654622.17		A	0.9
4	☐	1.000		40278178.84		A	0.8
5	☐	1.000		40038763.85		A	0.4
6	☐	1.000		40582434.95		A	0.9
7	☐	1.000		41520504.10		A	0.9
8	☐	1.000		35996183.08		A	0.6

89 Y (ISTD) [He]

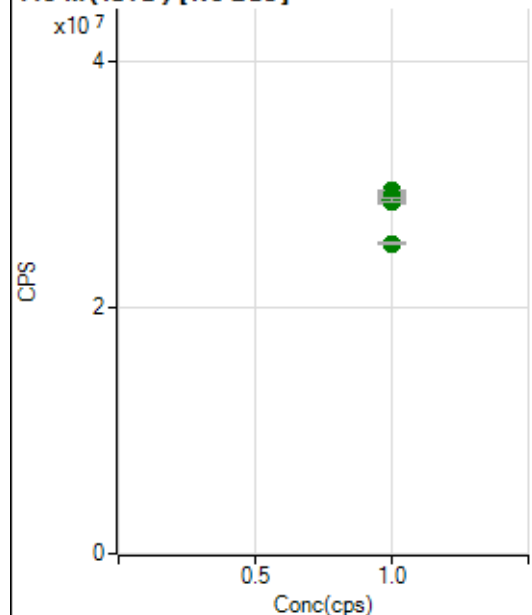
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4976529.23		P	1.4
2	☐	1.000		5080029.79		P	3.1
3	☐	1.000		4862137.19		P	2.0
4	☐	1.000		4785211.49		P	0.7
5	☐	1.000		4746317.29		P	1.2
6	☐	1.000		4853507.12		P	2.2
7	☐	1.000		4911152.85		P	0.5
8	☐	1.000		4643593.20		P	1.1

103 Rh (ISTD) [No Gas]

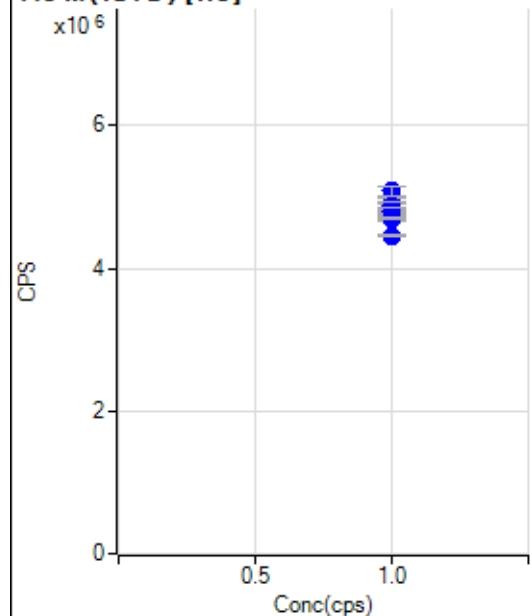
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		27109548.18		A	1.6
2	☐	1.000		27523479.78		A	0.5
3	☐	1.000		26820278.38		A	1.3
4	☐	1.000		26240424.55		A	0.6
5	☐	1.000		25644265.85		A	0.1
6	☐	1.000		25528703.70		A	1.3
7	☐	1.000		25488822.27		A	1.4
8	☐	1.000		20126921.63		A	0.7

103 Rh (ISTD) [He]

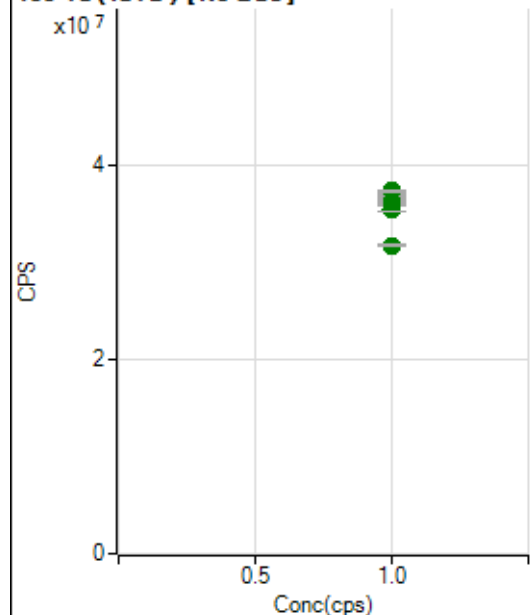
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		12084441.90		A	0.7
2	☐	1.000		12381804.40		A	2.9
3	☐	1.000		11821444.82		A	1.9
4	☐	1.000		11518277.88		A	0.6
5	☐	1.000		11321293.58		A	1.1
6	☐	1.000		11372074.00		A	1.5
7	☐	1.000		11129873.45		A	1.0
8	☐	1.000		9373814.03		A	0.5

115 In (ISTD) [No Gas]

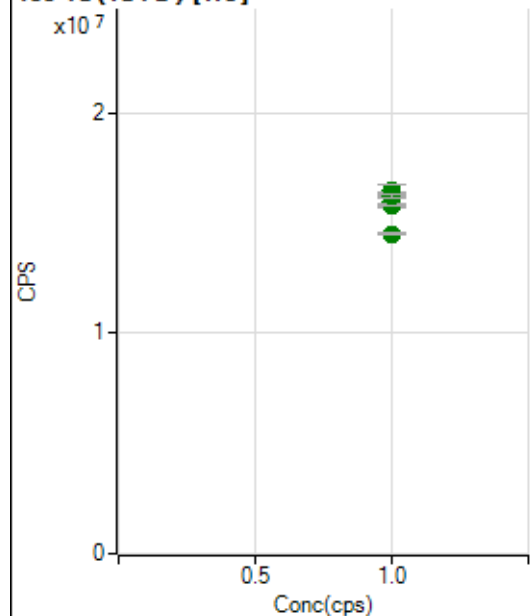
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		29386172.13		A	1.1
2	☐	1.000		29492246.14		A	0.1
3	☐	1.000		29125086.36		A	1.3
4	☐	1.000		29075590.54		A	0.5
5	☐	1.000		28592306.24		A	0.6
6	☐	1.000		28638978.07		A	0.4
7	☐	1.000		28770043.58		A	0.7
8	☐	1.000		25201657.24		A	0.9

115 In (ISTD) [He]

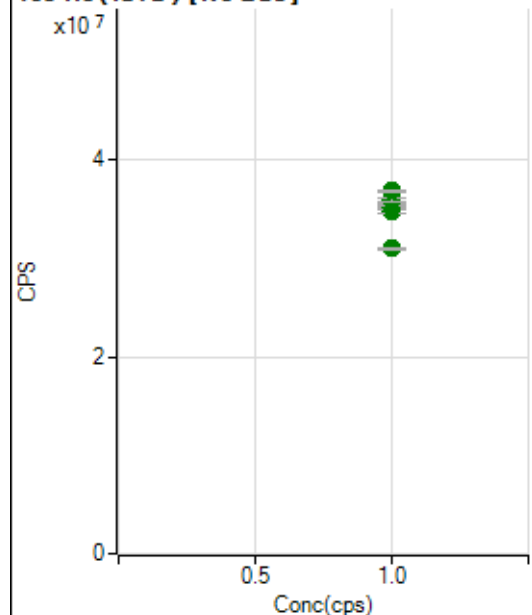
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4936073.57		P	1.5
2	☐	1.000		5082657.06		P	2.6
3	☐	1.000		4874102.05		P	1.9
4	☐	1.000		4786821.61		P	0.2
5	☐	1.000		4692510.24		P	1.6
6	☐	1.000		4801704.43		P	1.8
7	☐	1.000		4702850.61		P	0.8
8	☐	1.000		4454834.73		P	1.0

159 Tb (ISTD) [No Gas]

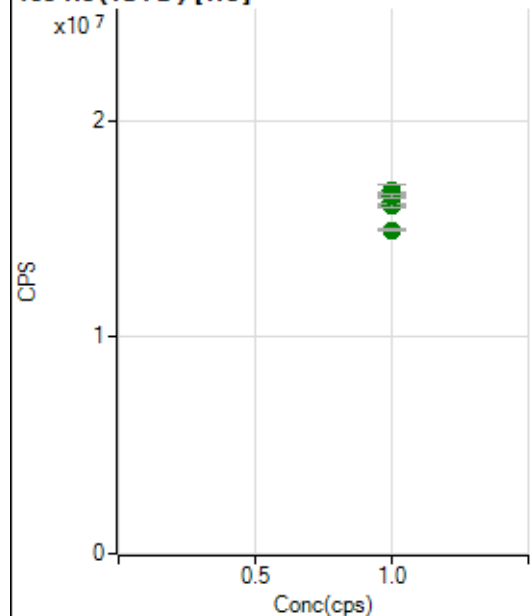
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		35467159.20		A	1.4
2	☐	1.000		36423191.95		A	0.6
3	☐	1.000		36247991.96		A	1.1
4	☐	1.000		36084042.52		A	0.6
5	☐	1.000		36372646.68		A	0.5
6	☐	1.000		36790978.90		A	0.6
7	☐	1.000		37293171.39		A	0.8
8	☐	1.000		31660761.75		A	0.8

159 Tb (ISTD) [He]

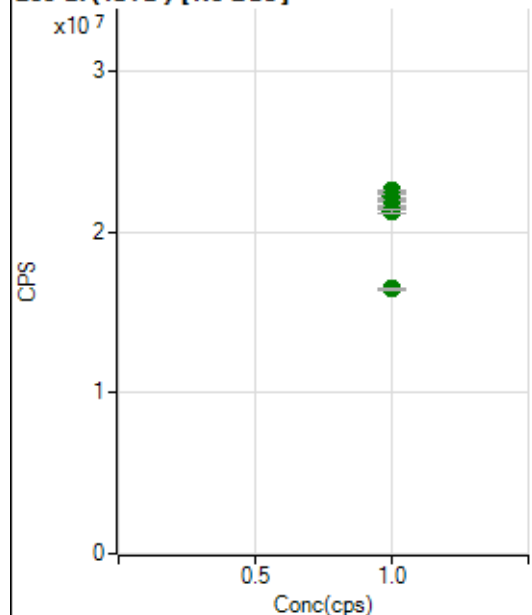
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		15742030.32		A	1.2
2	☐	1.000		16445770.31		A	3.6
3	☐	1.000		15944743.51		A	2.4
4	☐	1.000		15789360.88		A	0.4
5	☐	1.000		15803919.35		A	0.6
6	☐	1.000		16292956.70		A	1.1
7	☐	1.000		16204397.12		A	1.0
8	☐	1.000		14499749.37		A	0.4

165 Ho (ISTD) [No Gas]

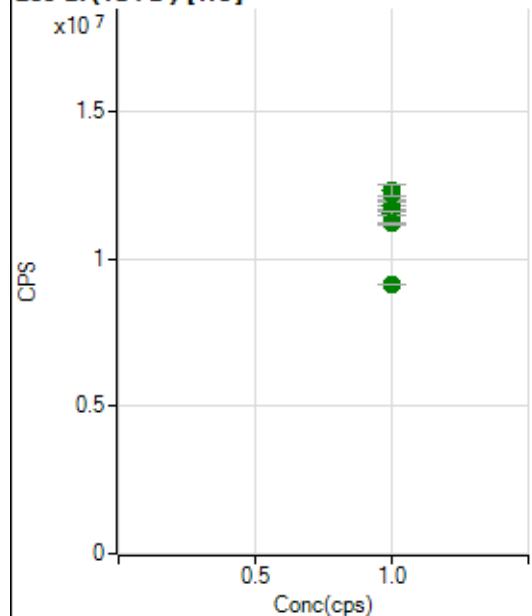
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		34730825.78		A	1.0
2	☐	1.000		35235785.86		A	0.6
3	☐	1.000		35188819.19		A	0.9
4	☐	1.000		35350590.37		A	0.4
5	☐	1.000		35473206.70		A	0.4
6	☐	1.000		35958562.61		A	0.8
7	☐	1.000		36853537.63		A	0.7
8	☐	1.000		31006976.39		A	0.9

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		16094260.60		A	1.2
2	☐	1.000		16764296.42		A	3.5
3	☐	1.000		16265003.51		A	2.3
4	☐	1.000		16178346.84		A	0.0
5	☐	1.000		16113338.65		A	1.0
6	☐	1.000		16596524.89		A	1.2
7	☐	1.000		16517942.12		A	1.0
8	☐	1.000		14969915.06		A	0.4

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		22069844.67		A	0.7
2	☐	1.000		22569270.22		A	0.9
3	☐	1.000		22265664.67		A	0.8
4	☐	1.000		21983340.64		A	0.8
5	☐	1.000		21952809.39		A	0.2
6	☐	1.000		21625843.57		A	0.6
7	☐	1.000		21318573.85		A	1.0
8	☐	1.000		16452468.37		A	0.7

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		11916369.13		A	1.3
2	☐	1.000		12310828.01		A	3.2
3	☐	1.000		11815628.99		A	2.0
4	☐	1.000		11689515.94		A	0.2
5	☐	1.000		11472628.16		A	0.3
6	☐	1.000		11562422.47		A	1.3
7	☐	1.000		11209601.64		A	0.8
8	☐	1.000		9146426.26		A	0.3

US EPA Tune Check Sample Report

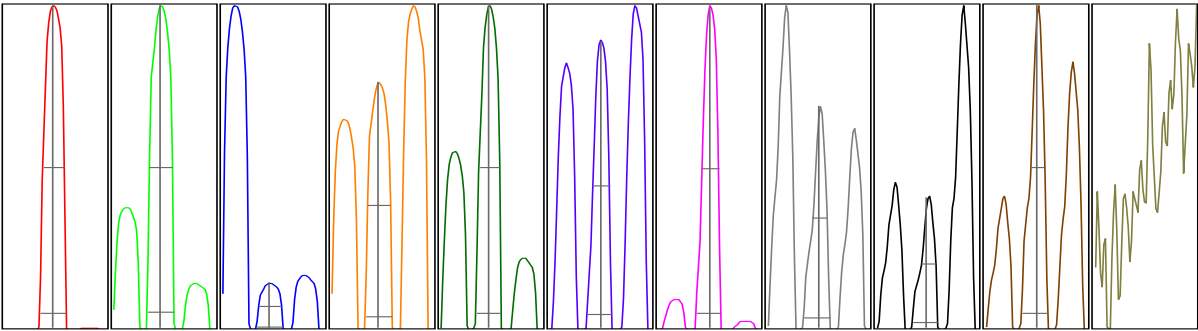
Batch Folder D:\ICP-MS Data\P7020220 MS.b
Report Comment
Instrument Name G8403A JP14410463

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	24634	0.51	5.00	
24	406274	0.90	5.00	
25	57469	0.79	5.00	
26	67420	0.51	5.00	
59	237676	0.50	5.00	
113	27732	0.70	5.00	
115	331612	0.60	5.00	
206	68015	0.66	5.00	
207	62480	0.55	5.00	
208	149601	0.75	5.00	
220	77	4.42		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	24806	24488	24538	24681	24655
24	410617	401946	403017	407823	407966
25	58040	56980	57146	57337	57844
26	67816	67487	66936	67239	67620
59	238363	236402	236666	237686	239264
113	27906	27440	27688	27711	27916
115	333508	329456	329735	331736	333627
206	67978	67396	67951	68093	68657
207	62468	62437	62314	62132	63050
208	149593	148031	149258	150023	151101
220	81	81	75	75	75

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width- X% (Flag)
9	40824	8.95	8.9 - 9.1		0.779	0.900	
24	647243	23.90	23.9 - 24.1		0.785	0.900	
25	91968	24.90	24.9 - 25.1		0.781	0.900	
26	108051	25.90	25.9 - 26.1		0.784	0.900	
59	413359	58.95	58.9 - 59.1		0.738	0.900	
113	56143	113.05	112.9 - 113.1		0.716	0.900	
115	671393	115.05	114.9 - 115.1		0.719	0.900	
206	151783	206.05	205.9 - 206.1		0.766	0.900	
207	134632	207.00	206.9 - 207.1		0.734	0.900	
208	334167	208.05	207.9 - 208.1		0.768	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
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	7.3	V	Deflect	13.0	V
Extract 2	-145.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-60	V	Cell Exit	-50	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP Bias	-8.0	V	Energy Discrimination		5.0 V
He Flow	0.0	mL/min	OctP RF	200	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	59047	0.58	
89	93314	0.56	
205	56269	0.69	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	59025	58933	58905	58739	59632
89	93363	92855	93669	92733	93950
205	56494	55780	56789	56186	56096

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	7.0	V	Deflect	2.2	V
Extract 2	-150.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-70	V	Cell Exit	-60	V			

Cell Parameters

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