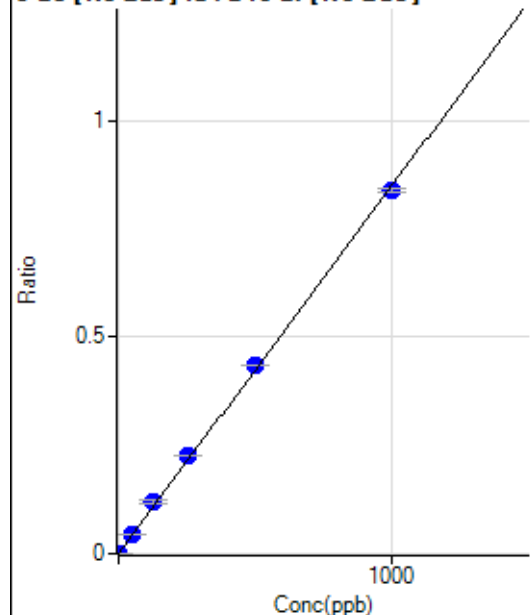


Batch Folder: D:\ICP-MS Data\P7111519-MSA.b\
Analysis File: P7111519-MSA.batch.bin
DA Date-Time: 2019-11-16 00:41:32
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2019-11-15 14:02:27
2	004CALS.d	S01	2019-11-15 14:06:00
3	005CALS.d	S02	2019-11-15 14:10:19
4	006CALS.d	S03	2019-11-15 14:14:14
5	007CALS.d	S04	2019-11-15 14:18:08
6	008CALS.d	S05	2019-11-15 14:21:58
7	009CALS.d	S06	2019-11-15 14:25:45
8	010CALS.d	S07	2019-11-15 14:29:30
9	011CALS.d	S08	2019-11-15 14:33:14

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64.82	0.0000	P	27.8
2	☐	0.100	0.089	307.42	0.0001	P	10.4
3	☐	1.000	1.077	3076.31	0.0009	P	4.3
4	☐	50.000	52.378	150694.22	0.0444	P	3.1
5	☐	125.000	140.589	377106.74	0.1193	P	5.2
6	☐	250.000	266.587	716368.53	0.2261	P	0.8
7	☐	500.000	512.816	1366854.07	0.4350	P	0.6
8	☐	1000.000	987.378	2579988.57	0.8375	P	1.0
9	☐			546.32	0.0002	P	10.6

$$y = 8.4815E-004 * x + 2.0855E-005$$

$$R = 0.9996$$

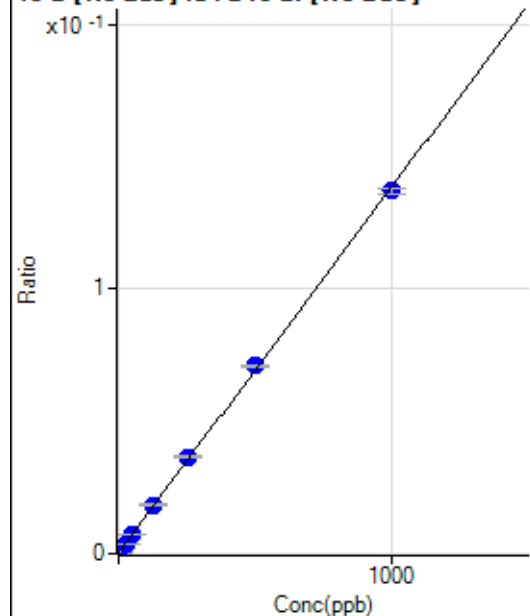
$$DL = 0.02054$$

$$BEC = 0.02459$$

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	997.29	0.0003	P	10.0
2	☐	2.500	2.300	2055.77	0.0006	P	5.2
3	☐	25.000	25.388	12602.97	0.0038	P	4.9
4	☐	50.000	50.543	24751.60	0.0073	P	5.4
5	☐	125.000	131.577	58472.72	0.0185	P	4.8
6	☐	250.000	261.620	115441.74	0.0364	P	1.9
7	☐	500.000	512.344	223260.20	0.0710	P	1.1
8	☐	1000.000	990.065	422018.53	0.1370	P	1.7
9	☐			5692.96	0.0020	P	5.0

$$y = 1.3803E-004 * x + 3.2797E-004$$

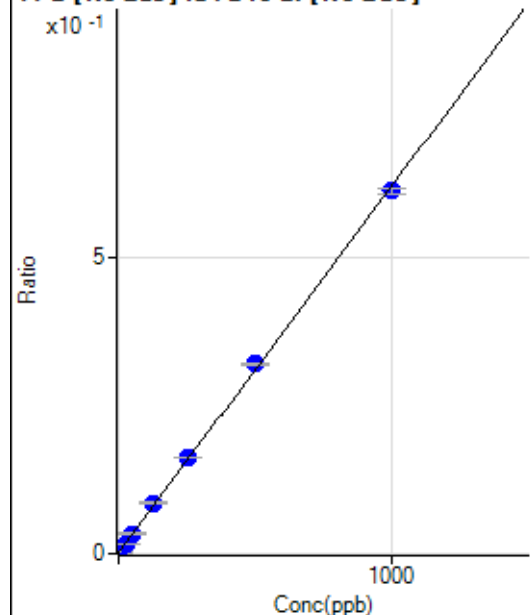
$$R = 0.9998$$

$$DL = 0.713$$

$$BEC = 2.376$$

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	4673.12	0.0015	P	10.3
2	☐	2.500	2.267	9350.49	0.0029	P	7.4
3	☐	25.000	25.946	57803.42	0.0176	P	2.3
4	☐	50.000	51.991	114097.87	0.0337	P	4.8
5	☐	125.000	134.205	267233.29	0.0845	P	3.9
6	☐	250.000	260.869	515600.62	0.1628	P	1.2
7	☐	500.000	516.218	1007295.54	0.3206	P	1.3
8	☐	1000.000	987.901	1885510.55	0.6121	P	1.9
9	☐			26593.66	0.0091	P	3.6

$$y = 6.1799\text{E-}004 * x + 0.0015$$

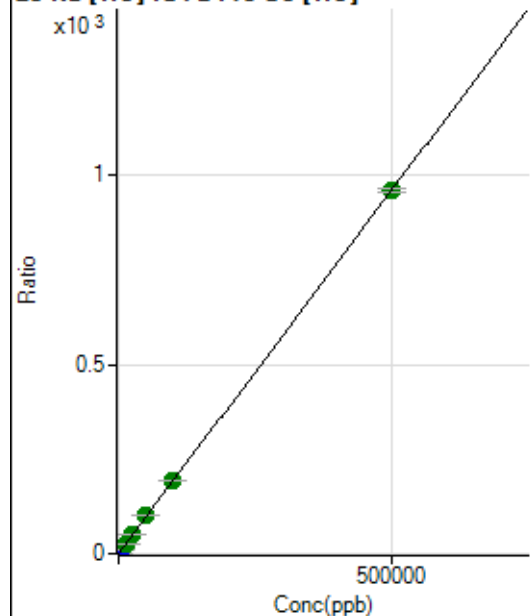
$$R = 0.9997$$

$$DL = 0.7679$$

$$BEC = 2.488$$

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	6724.01	0.0278	P	1.6
2	☐	50.000	47.016	30534.80	0.1179	P	4.9
3	☐	500.000	515.093	251669.71	1.0156	P	1.1
4	☐	5000.000	5264.537	2475698.60	10.1244	P	0.9
5	☐	12500.000	13434.039	5765047.31	25.7923	A	0.7
6	☐	25000.000	27114.737	11445546.44	52.0298	A	2.4
7	☐	50000.000	53048.678	22196077.06	101.7673	A	1.8
8	☐	100000.00	100430.45	43841488.13	192.6385	A	0.6
9	☐	500000.00	499477.29	220777535.4	957.9513	A	0.9

$$y = 0.0019 * x + 0.0278$$

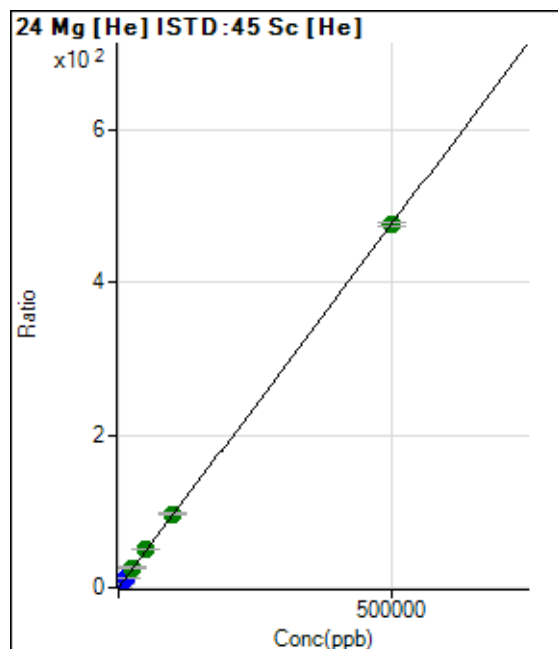
$$R = 1.0000$$

$$DL = 0.6756$$

$$BEC = 14.48$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0008	P	8.9
2	☐	50.000	49.329	12361.06	0.0478	P	7.6
3	☐	500.000	542.889	128397.67	0.5181	P	0.7
4	☐	5000.000	5373.334	1252401.19	5.1216	P	0.6
5	☐	12500.000	13786.748	2936931.21	13.1397	P	1.1
6	☐	25000.000	27761.318	5819797.40	26.4576	A	2.8
7	☐	50000.000	53131.714	11043945.21	50.6358	A	1.8
8	☐	100000.00	101773.96	22074067.68	96.9924	A	0.6
9	☐	500000.00	499158.02	109634309.4	475.7037	A	1.2

$$y = 9.5301\text{E-}004 * x + 7.5782\text{E-}004$$

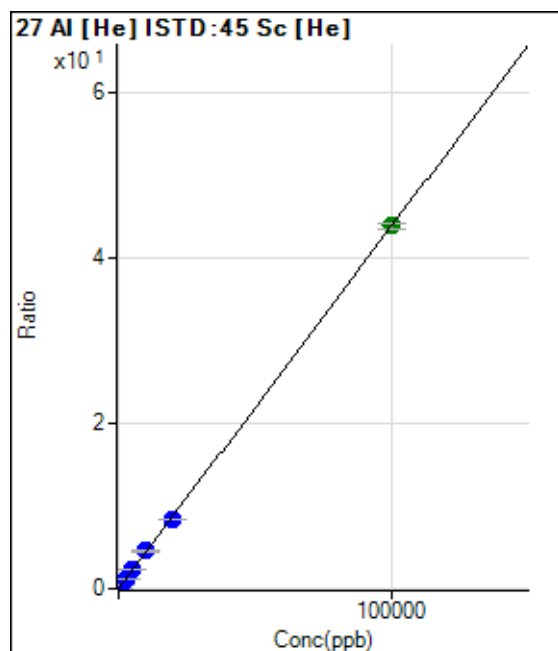
$$R = 1.0000$$

$$DL = 0.2127$$

$$BEC = 0.7952$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72.22	0.0003	P	35.8
2	☐	2.000	1.863	288.90	0.0011	P	18.8
3	☐	20.000	19.808	2225.26	0.0090	P	6.1
4	☐	1000.000	1034.356	110979.46	0.4538	P	0.6
5	☐	2500.000	2637.479	258550.17	1.1567	P	1.4
6	☐	5000.000	5250.106	506379.63	2.3023	P	3.4
7	☐	10000.000	10438.505	998291.07	4.5772	P	2.0
8	☐	20000.000	19247.919	1920815.52	8.4397	P	0.2
9	☐	100000.00	100090.28	10114264.81	43.8859	A	1.6

$$y = 4.3846\text{E-}004 * x + 2.9883\text{E-}004$$

$$R = 0.9999$$

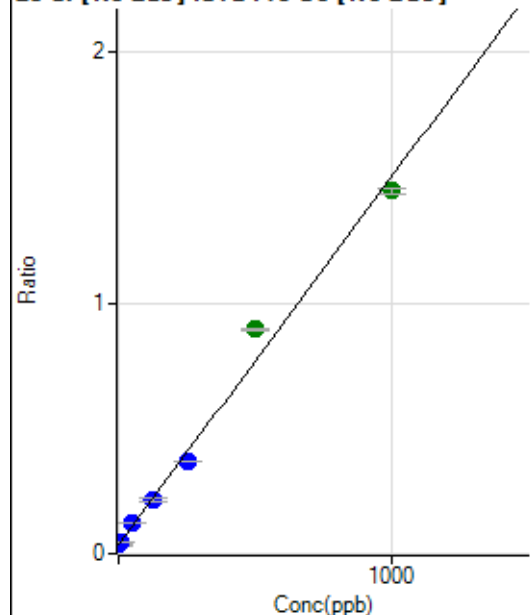
$$DL = 0.7322$$

$$BEC = 0.6815$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	186303.33	0.0353	P	12.4
2	☐	1.000	0.384	196099.80	0.0359	P	4.3
3	☐	10.000	6.985	257224.20	0.0455	P	2.4
4	☐	50.000	59.610	707248.04	0.1228	P	4.3
5	☐	125.000	122.254	1142531.17	0.2148	P	6.4
6	☐	250.000	227.186	1981834.61	0.3689	P	0.6
7	☐	500.000	586.912	4796854.80	0.8972	A	0.7
8	☐	1000.000	962.141	7691557.55	1.4482	A	1.5
9	☐			469098.52	0.0905	P	0.6

$$y = 0.0015 * x + 0.0353$$

$$R = 0.9945$$

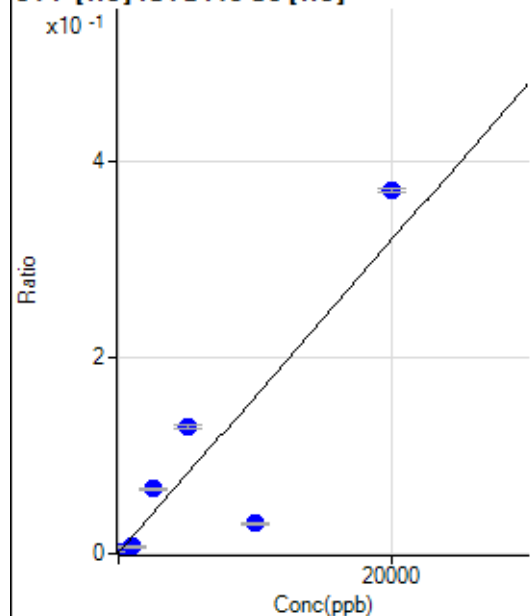
$$DL = 8.916$$

$$BEC = 24.03$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-24.460	105.56	0.0004	P	17.4
2	☐	0.000	-23.045	119.45	0.0005	P	38.3
3	☐	0.000	47.505	391.69	0.0016	P	27.0
4	☐	1000.000	385.524	1705.72	0.0070	P	4.0
5	☐	2500.000	4076.014	14716.13	0.0658	P	2.2
6	☐	5000.000	8093.120	28578.30	0.1299	P	3.6
7	☐	10000.000	1859.456	6648.96	0.0305	P	2.3
8	☐	20000.000	23130.714	84159.36	0.3698	P	1.0
9	☐			122.23	0.0005	P	32.4

$$y = 1.5951E-005 * x + 8.2666E-004$$

$$R = 0.8952$$

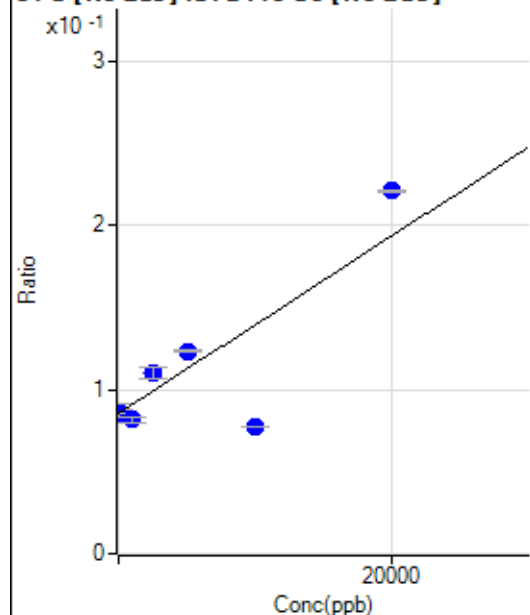
$$DL = 42.6$$

$$BEC = 51.83$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	215.369	456748.27	0.0865	P	12.0
2	☐	0.000	36.168	467691.61	0.0855	P	4.8
3	☐	0.000	-251.537	474231.16	0.0840	P	2.3
4	☐	1000.000	-705.673	469439.79	0.0815	P	3.6
5	☐	2500.000	4538.930	584020.86	0.1098	P	7.1
6	☐	5000.000	7049.057	662888.48	0.1234	P	0.2
7	☐	10000.000	-1497.199	412979.74	0.0772	P	0.5
8	☐	20000.000	25066.753	1172224.78	0.2207	P	0.8
9	☐			334418.91	0.0645	P	1.4

$$y = 5.4007\text{E-}006 * x + 0.0853$$

$$R = 0.8365$$

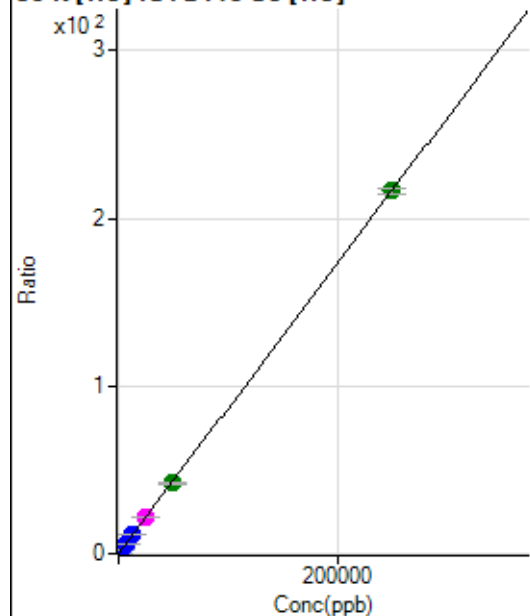
$$DL = 3037$$

$$BEC = 1.58\text{E}+04$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19502.40	0.0806	P	4.3
2	☐	50.000	42.637	30404.08	0.1174	P	4.6
3	☐	500.000	507.703	128706.71	0.5194	P	1.2
4	☐	2500.000	2584.490	565948.42	2.3144	P	0.6
5	☐	6250.000	6627.710	1298438.72	5.8091	P	1.2
6	☐	12500.000	13220.473	2531557.85	11.5074	P	2.0
7	☐	25000.000	24978.075	4726157.70	21.6698	M	2.2
8	☐	50000.000	48393.766	9537666.96	41.9086	A	0.8
9	☐	250000.00	250277.11	49873263.61	216.4016	A	1.3

$$y = 8.6433\text{E-}004 * x + 0.0806$$

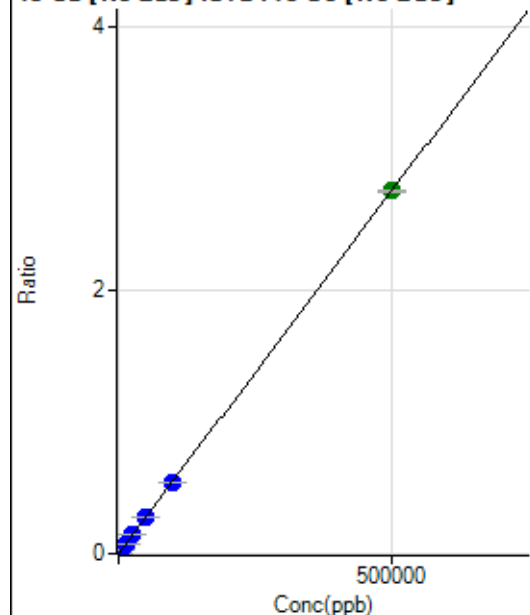
$$R = 1.0000$$

$$DL = 11.95$$

$$BEC = 93.22$$

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	119.45	0.0000	P	6.2
2	☐	50.000	47.854	1558.48	0.0003	P	9.8
3	☐	500.000	500.543	15661.62	0.0028	P	2.7
4	☐	5000.000	5008.148	158624.08	0.0275	P	3.8
5	☐	12500.000	13536.712	395606.76	0.0744	P	7.5
6	☐	25000.000	25910.332	765029.47	0.1424	P	1.7
7	☐	50000.000	50121.075	1472789.52	0.2755	P	0.9
8	☐	100000.00	97573.735	2848155.38	0.5362	P	1.2
9	☐	500000.00	500401.62	14255546.50	2.7500	A	0.5

$$y = 5.4956\text{E-}006 * x + 2.2461\text{E-}005$$

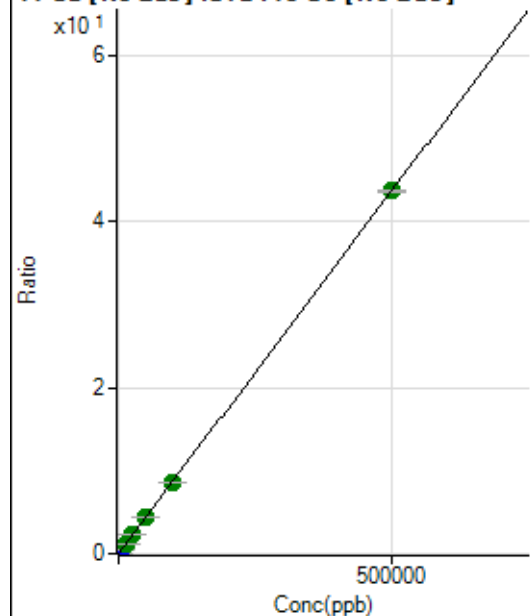
$$R = 1.0000$$

$$DL = 0.7592$$

$$BEC = 4.087$$

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	12097.06	0.0023	P	14.3
2	☐	50.000	49.913	36387.42	0.0067	P	5.2
3	☐	500.000	499.922	259622.25	0.0460	P	1.4
4	☐	5000.000	4964.838	2510032.26	0.4360	P	4.8
5	☐	12500.000	13368.110	6221267.85	1.1700	A	7.0
6	☐	25000.000	25639.528	12043580.56	2.2419	A	0.7
7	☐	50000.000	49992.018	23359878.99	4.3691	A	0.8
8	☐	100000.00	97851.882	45409627.40	8.5497	A	1.2
9	☐	500000.00	500377.09	226577699.5	43.7106	A	0.9

$$y = 8.7351\text{E-}005 * x + 0.0023$$

$$R = 1.0000$$

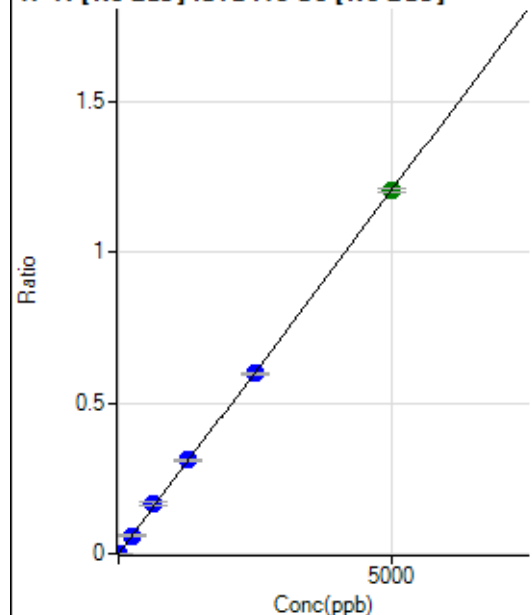
$$DL = 11.25$$

$$BEC = 26.27$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	72.23	0.0000	P	44.5
2	☐	0.500	0.528	769.50	0.0001	P	17.2
3	☐	5.000	5.170	7121.47	0.0013	P	7.5
4	☐	250.000	250.064	347359.07	0.0603	P	3.7
5	☐	625.000	677.519	868645.78	0.1634	P	7.5
6	☐	1250.000	1290.009	1671203.54	0.3111	P	1.4
7	☐	2500.000	2478.657	3195958.73	0.5977	P	0.3
8	☐	5000.000	4994.101	6396482.87	1.2044	A	1.2
9	☐			2095.47	0.0004	P	33.9

$$y = 2.4115E-004 * x + 1.3900E-005$$

$$R = 0.9999$$

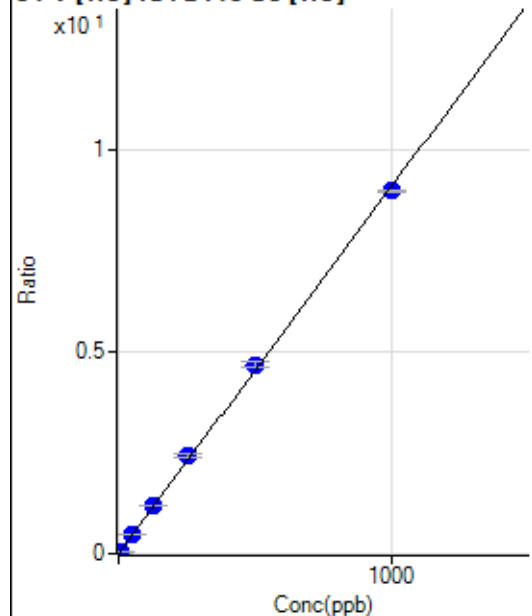
$$DL = 0.07703$$

$$BEC = 0.05764$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5.56	0.0000	P	173.2
2	☐	0.500	0.490	1158.95	0.0045	P	5.8
3	☐	5.000	5.330	12008.38	0.0485	P	1.7
4	☐	50.000	50.749	112780.42	0.4612	P	1.0
5	☐	125.000	132.434	269006.78	1.2035	P	1.6
6	☐	250.000	266.824	533394.07	2.4248	P	2.6
7	☐	500.000	513.731	1018129.45	4.6686	P	2.9
8	☐	1000.000	987.960	2043371.62	8.9782	P	0.4
9	☐			882.27	0.0038	P	6.5

$$y = 0.0091 * x + 2.3050E-005$$

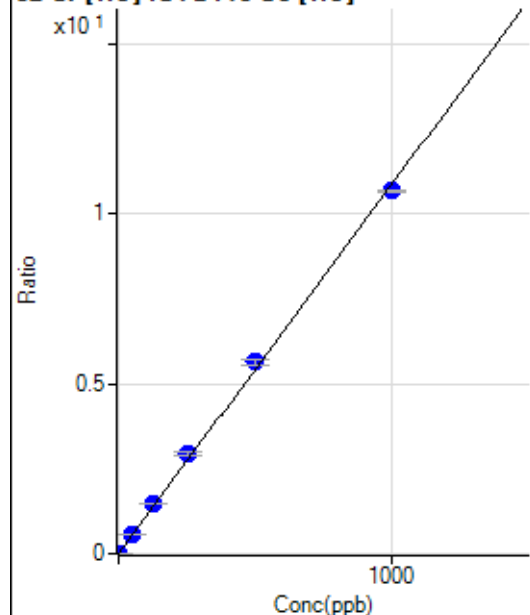
$$R = 0.9997$$

$$DL = 0.01318$$

$$BEC = 0.002536$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	362.23	0.0015	P	2.6
2	☐	0.200	0.205	963.38	0.0037	P	11.4
3	☐	2.000	2.093	6004.64	0.0242	P	2.2
4	☐	50.000	52.105	138769.01	0.5675	P	0.3
5	☐	125.000	135.145	328460.94	1.4695	P	0.6
6	☐	250.000	271.697	649537.69	2.9528	P	2.6
7	☐	500.000	518.986	1229792.25	5.6389	P	2.5
8	☐	1000.000	983.709	2432256.56	10.6869	P	0.2
9	☐			74712.72	0.3242	P	1.7

$$y = 0.0109 * x + 0.0015$$

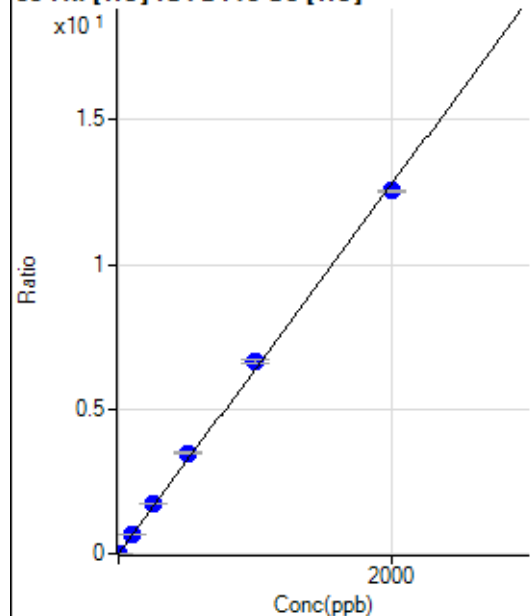
$$R = 0.9994$$

$$DL = 0.0109$$

$$BEC = 0.1377$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	36.67	0.0002	P	32.9
2	☐	0.100	0.110	220.00	0.0009	P	19.1
3	☐	1.000	1.080	1746.80	0.0070	P	2.1
4	☐	100.000	103.694	161962.12	0.6623	P	1.0
5	☐	250.000	271.720	387894.87	1.7354	P	0.0
6	☐	500.000	545.809	766848.25	3.4857	P	1.9
7	☐	1000.000	1041.022	1449889.60	6.6482	P	2.6
8	☐	2000.000	1965.137	2856185.37	12.5496	P	0.6
9	☐			11474.61	0.0498	P	2.0

$$y = 0.0064 * x + 1.5145E-004$$

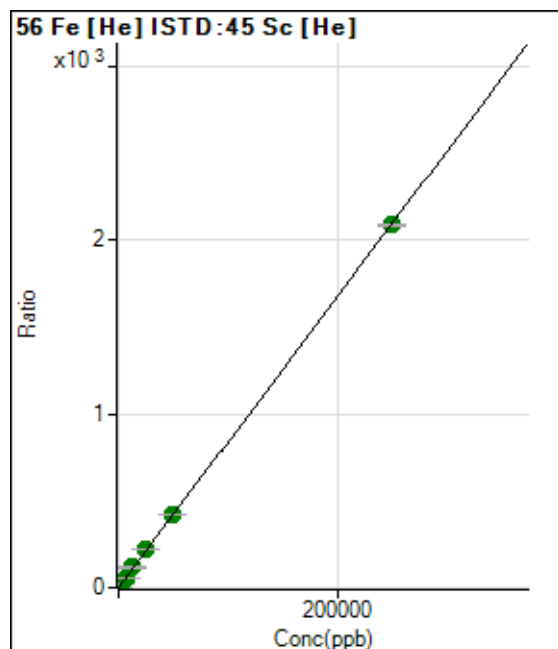
$$R = 0.9994$$

$$DL = 0.02342$$

$$BEC = 0.02372$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3220.81	0.0133	P	3.1
2	☐	5.000	6.531	17577.54	0.0679	P	4.5
3	☐	50.000	71.524	151374.31	0.6109	P	1.7
4	☐	2500.000	2621.118	5358743.06	21.9142	A	0.6
5	☐	6250.000	6907.533	12903524.13	57.7296	A	0.8
6	☐	12500.000	13928.886	25605762.38	116.3968	A	2.3
7	☐	25000.000	26578.910	48437356.64	222.0948	A	2.4
8	☐	50000.000	50274.321	95604467.88	420.0830	A	0.7
9	☐	250000.00	249698.14	480845158.9	2,086.379	A	0.9

$$y = 0.0084 * x + 0.0133$$

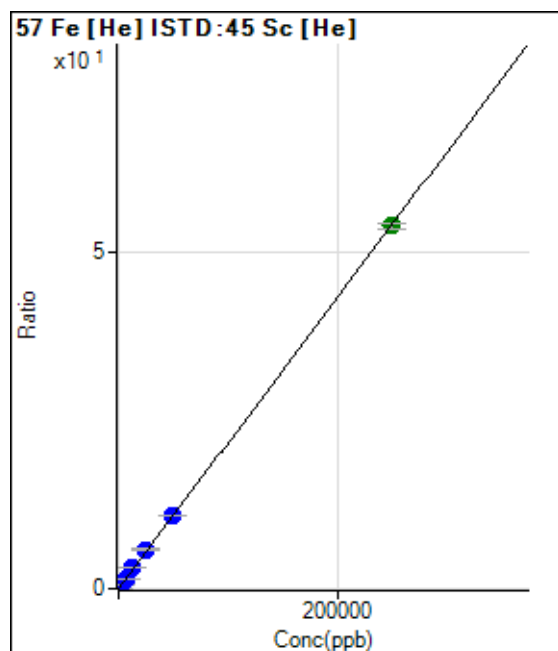
$$R = 1.0000$$

$$DL = 0.149$$

$$BEC = 1.592$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	272.23	0.0011	P	4.6
2	☐	5.000	6.021	627.81	0.0024	P	4.1
3	☐	50.000	70.293	4037.69	0.0163	P	2.6
4	☐	2500.000	2654.760	140375.78	0.5741	P	1.0
5	☐	6250.000	7067.788	341193.93	1.5265	P	0.7
6	☐	12500.000	14118.249	670511.11	3.0481	P	2.5
7	☐	25000.000	26971.640	1269785.82	5.8221	P	2.1
8	☐	50000.000	50409.740	2476258.07	10.8804	P	0.3
9	☐	250000.00	249617.97	12415845.88	53.8728	A	1.4

$$y = 2.1582E-004 * x + 0.0011$$

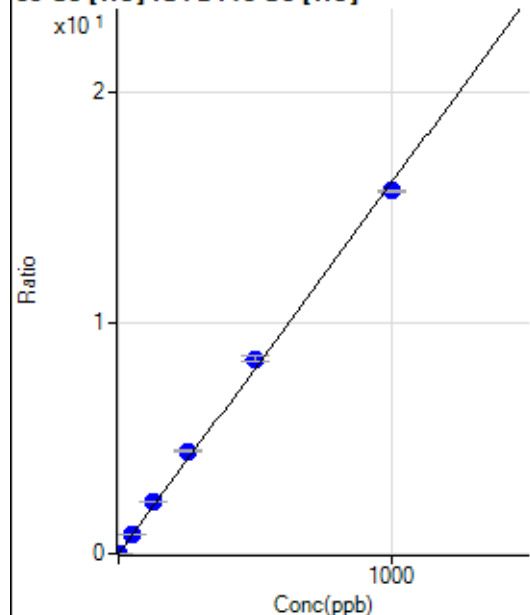
$$R = 1.0000$$

$$DL = 0.7177$$

$$BEC = 5.209$$

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	48.89	0.0002	P	30.3
2	☐	0.100	0.097	454.46	0.0018	P	6.2
3	☐	1.000	1.028	4145.09	0.0167	P	3.7
4	☐	50.000	53.392	209850.83	0.8582	P	0.8
5	☐	125.000	138.611	497906.88	2.2276	P	0.6
6	☐	250.000	277.166	979863.25	4.4541	P	2.0
7	☐	500.000	525.451	1841518.46	8.4439	P	2.5
8	☐	1000.000	978.612	3578900.64	15.7259	P	0.9
9	☐			8049.01	0.0349	P	2.8

$$y = 0.0161 * x + 2.0150E-004$$

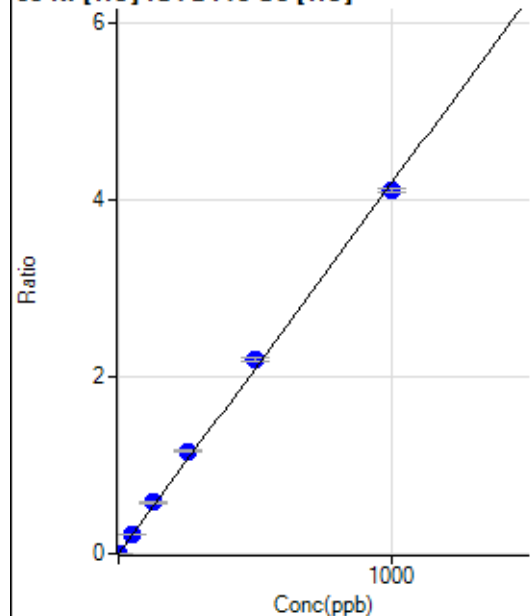
$$R = 0.9991$$

$$DL = 0.01139$$

$$BEC = 0.01254$$

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	17.78	0.0001	P	61.1
2	☐	0.100	0.085	111.12	0.0004	P	15.2
3	☐	1.000	1.074	1131.18	0.0046	P	4.1
4	☐	50.000	53.763	54993.96	0.2249	P	1.3
5	☐	125.000	137.743	128768.52	0.5761	P	0.8
6	☐	250.000	276.194	254083.86	1.1551	P	2.6
7	☐	500.000	523.904	477833.08	2.1909	P	2.3
8	☐	1000.000	979.719	932415.98	4.0971	P	0.9
9	☐			20233.07	0.0878	P	2.4

$$y = 0.0042 * x + 7.3610E-005$$

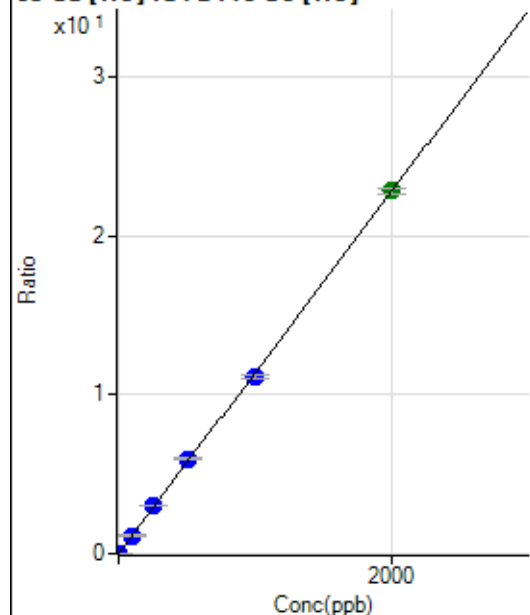
$$R = 0.9992$$

$$DL = 0.03225$$

$$BEC = 0.0176$$

Weight: <None>

Min Conc: 0

⁶³Cu [He] ISTD:45 Sc [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	407.79	0.0017	P	2.3
2	☐	0.200	0.176	955.61	0.0037	P	7.4
3	☐	2.000	2.036	6163.62	0.0249	P	1.8
4	☐	100.000	100.695	280745.01	1.1481	P	0.7
5	☐	250.000	261.952	666976.65	2.9840	P	0.8
6	☐	500.000	523.627	1311758.24	5.9632	P	2.5
7	☐	1000.000	977.455	2427452.48	11.1300	P	2.1
8	☐	2000.000	2003.837	5192203.88	22.8153	A	1.3
9	☐			8445.89	0.0366	P	1.2

$$y = 0.0114 * x + 0.0017$$

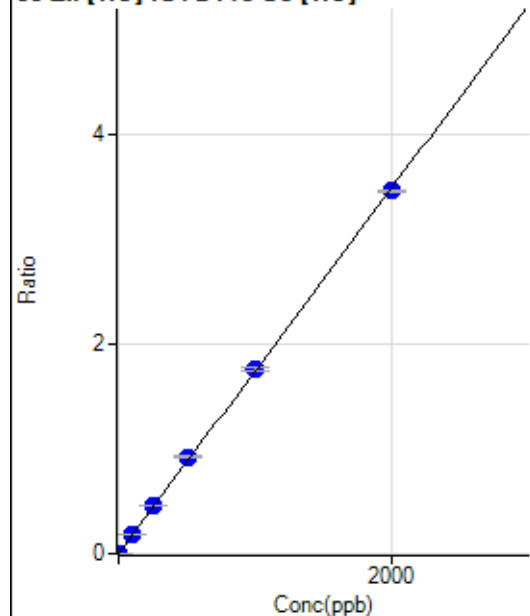
$$R = 0.9998$$

$$DL = 0.01013$$

$$BEC = 0.148$$

Weight: <None>

Min Conc: 0

⁶⁶Zn [He] ISTD:45 Sc [He]

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	434.46	0.0018	P	13.2
2	☒	0.200					
3	☐	2.000	2.484	1515.66	0.0061	P	3.2
4	☐	100.000	102.091	43894.90	0.1795	P	2.3
5	☐	250.000	265.532	103718.33	0.4640	P	0.9
6	☐	500.000	528.898	202944.46	0.9225	P	2.0
7	☐	1000.000	1009.653	383706.67	1.7594	P	2.5
8	☐	2000.000	1985.902	787186.75	3.4589	P	0.7
9	☐			10879.73	0.0472	P	2.5

$$y = 0.0017 * x + 0.0018$$

$$R = 0.9999$$

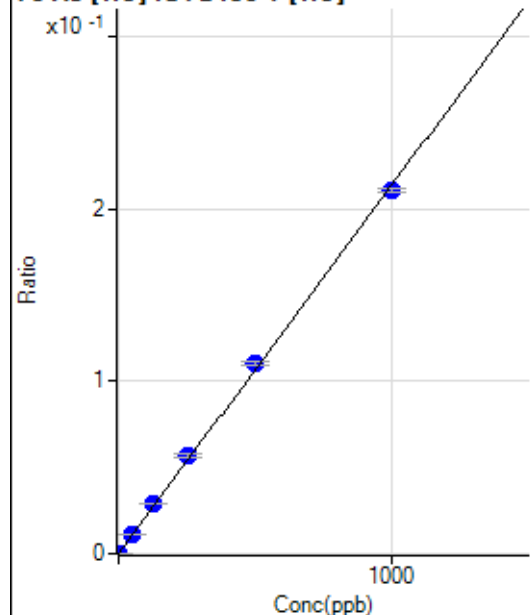
$$DL = 0.409$$

$$BEC = 1.03$$

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	8.02	0.0000	P	74.0
2	☐	0.100	0.074	28.39	0.0000	P	20.0
3	☐	1.000	1.018	268.52	0.0002	P	6.8
4	☐	50.000	53.492	13624.35	0.0114	P	1.6
5	☐	125.000	134.671	31954.83	0.0288	P	1.2
6	☐	250.000	266.717	63373.55	0.0571	P	3.2
7	☐	500.000	517.878	121363.88	0.1108	P	2.1
8	☐	1000.000	985.498	238491.74	0.2108	P	1.0
9	☐			127.78	0.0001	P	12.4

$$y = 2.1388\text{E-}004 * x + 6.8784\text{E-}006$$

$$R = 0.9996$$

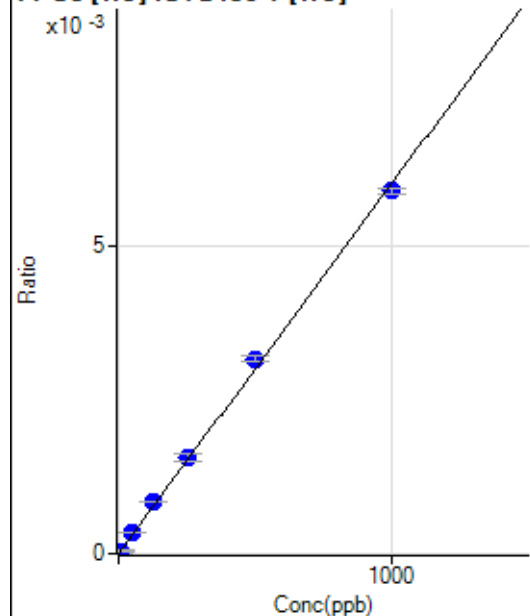
$$DL = 0.07144$$

$$BEC = 0.03216$$

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	1.044	7.78	0.0000	P	68.2
3	☐	5.000	7.270	52.22	0.0000	P	41.8
4	☐	50.000	58.959	422.23	0.0004	P	2.4
5	☐	125.000	141.511	944.49	0.0009	P	1.0
6	☐	250.000	259.852	1737.91	0.0016	P	7.1
7	☐	500.000	527.585	3478.25	0.0032	P	2.4
8	☐	1000.000	981.221	6680.53	0.0059	P	1.7
9	☐			6.67	0.0000	P	99.6

$$y = 6.0174\text{E-}006 * x + 0.0000\text{E+}000$$

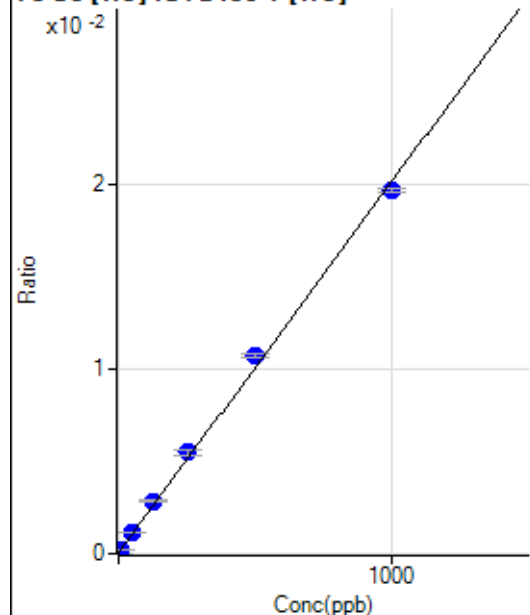
$$R = 0.9993$$

$$DL = 0$$

$$BEC = 0$$

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	54.32	0.0000	P	10.8
2	☐	0.500	-0.281	51.23	0.0000	P	12.7
3	☐	5.000	6.094	201.85	0.0002	P	7.9
4	☐	50.000	53.712	1337.73	0.0011	P	2.7
5	☐	125.000	139.035	3144.82	0.0028	P	3.1
6	☐	250.000	271.578	6101.33	0.0055	P	5.1
7	☐	500.000	533.359	11773.98	0.0107	P	2.1
8	☐	1000.000	975.981	22205.32	0.0196	P	1.1
9	☐			55.55	0.0000	P	31.9

$$y = 2.0061\text{E-}005 * x + 4.6530\text{E-}005$$

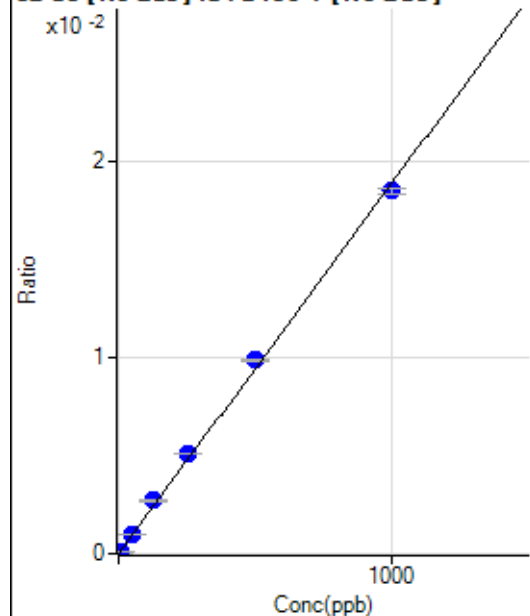
$$R = 0.9989$$

$$DL = 0.7491$$

$$BEC = 2.319$$

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	-23.59	0.0000	P	-261.
2	☒	0.500					
3	☐	5.000	6.238	963.52	0.0001	P	9.5
4	☐	50.000	53.219	8721.49	0.0010	P	2.8
5	☐	125.000	143.636	21893.84	0.0027	P	6.2
6	☐	250.000	270.317	42480.30	0.0051	P	0.1
7	☐	500.000	523.462	81717.85	0.0098	P	0.7
8	☐	1000.000	980.693	152478.50	0.0185	P	1.6
9	☐			196.26	0.0000	P	10.9

$$y = 1.8822\text{E-}005 * x - 3.5861\text{E-}006$$

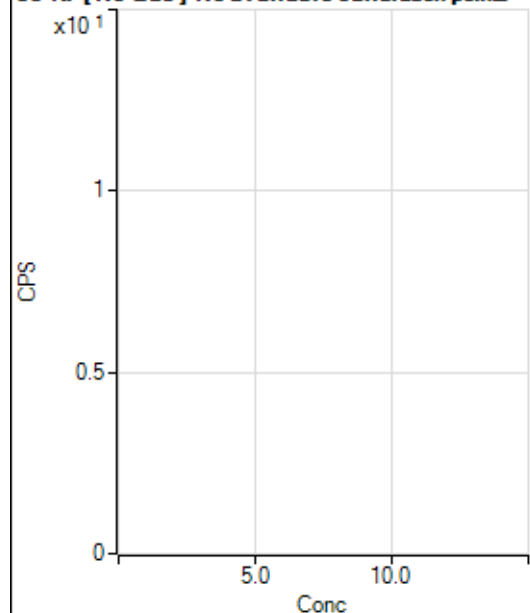
$$R = 0.9993$$

$$DL = 1.493$$

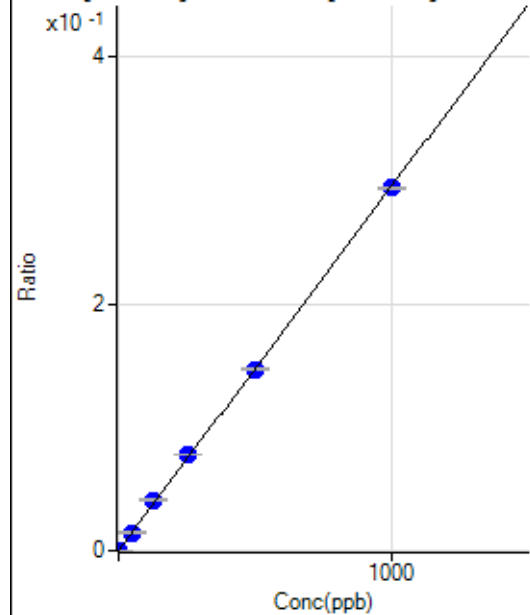
$$BEC = -0.1905$$

Weight: <None>

Min Conc: 0

83 Kr [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			565.58		P	11.4
2	☐			588.91		P	9.2
3	☐			537.80		P	5.0
4	☐			522.24		P	4.3
5	☐			525.57		P	9.5
6	☐			506.68		P	3.7
7	☐			510.02		P	15.4
8	☐			478.91		P	1.1
9	☐			492.24		P	6.9

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	827.83	0.0001	P	5.5
2	☐	0.100	0.138	1172.32	0.0001	P	5.5
3	☐	1.000	1.067	3533.91	0.0004	P	1.0
4	☐	50.000	49.354	128160.29	0.0147	P	4.2
5	☐	125.000	139.361	334335.42	0.0412	P	7.0
6	☐	250.000	264.810	653989.55	0.0783	P	0.3
7	☐	500.000	497.373	1219031.86	0.1469	P	1.1
8	☐	1000.000	995.848	2429806.85	0.2941	P	0.9
9	☐			11107.55	0.0014	P	3.6

$$y = 2.9520\text{E-}004 * x + 1.0201\text{E-}004$$

$$R = 0.9998$$

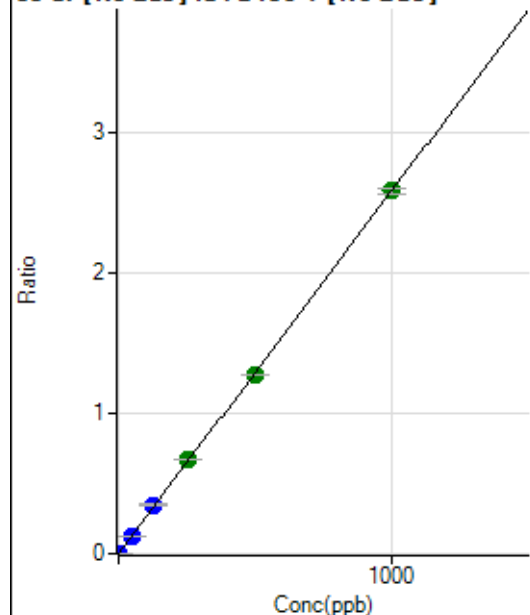
$$DL = 0.05739$$

$$BEC = 0.3456$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	127.78	0.0000	P	29.3
2	☐	0.100	0.102	2303.07	0.0003	P	3.2
3	☐	1.000	1.030	22632.52	0.0027	P	6.3
4	☐	50.000	48.960	1103510.78	0.1263	P	4.5
5	☐	125.000	134.895	2822338.72	0.3481	P	6.2
6	☐	250.000	259.064	5584703.47	0.6684	A	0.4
7	☐	500.000	491.776	10527623.24	1.2688	A	0.4
8	☐	1000.000	1000.661	21331218.53	2.5818	A	1.5
9	☐			89752.95	0.0111	P	1.2

$$y = 0.0026 * x + 1.6090E-005$$

$$R = 0.9999$$

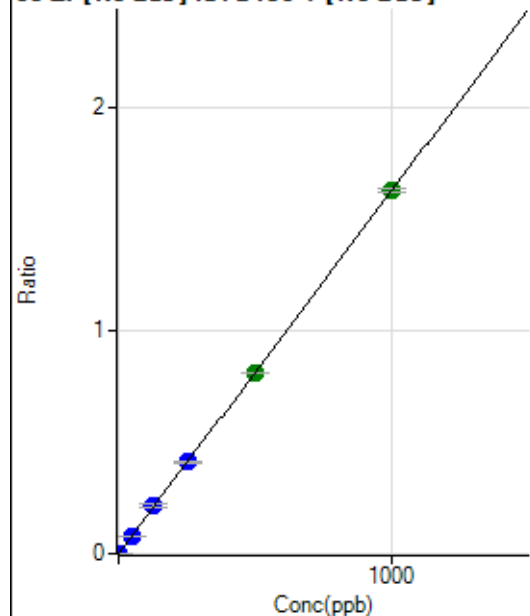
$$DL = 0.005483$$

$$BEC = 0.006236$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	419.47	0.0001	P	14.2
2	☐	0.100	0.077	1452.91	0.0002	P	14.1
3	☐	1.000	0.866	12386.36	0.0015	P	5.4
4	☐	50.000	48.683	693359.76	0.0794	P	4.2
5	☐	125.000	133.473	1763594.75	0.2175	P	6.7
6	☐	250.000	252.007	3431106.98	0.4107	P	0.7
7	☐	500.000	496.555	6713482.36	0.8091	A	0.3
8	☐	1000.000	1000.227	13466048.39	1.6298	A	1.0
9	☐			4456.44	0.0006	P	5.8

$$y = 0.0016 * x + 5.1492E-005$$

$$R = 1.0000$$

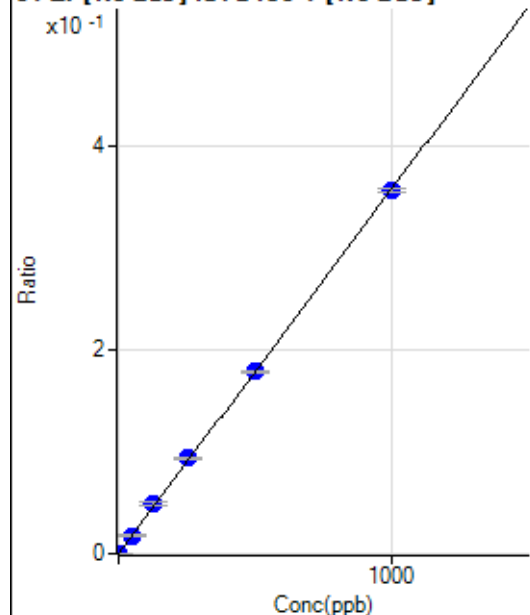
$$DL = 0.01342$$

$$BEC = 0.0316$$

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	83.34	0.0000	P	33.9
2	☐	0.100	0.089	347.24	0.0000	P	9.3
3	☐	1.000	0.867	2714.25	0.0003	P	3.5
4	☐	50.000	50.008	156503.38	0.0179	P	2.9
5	☐	125.000	138.295	401502.73	0.0495	P	6.3
6	☐	250.000	261.626	782541.96	0.0937	P	0.7
7	☐	500.000	499.851	1484595.32	0.1789	P	0.9
8	☐	1000.000	995.506	2944317.43	0.3564	P	1.0
9	☐			941.74	0.0001	P	14.0

$$y = 3.5796E-004 * x + 1.0141E-005$$

$$R = 0.9999$$

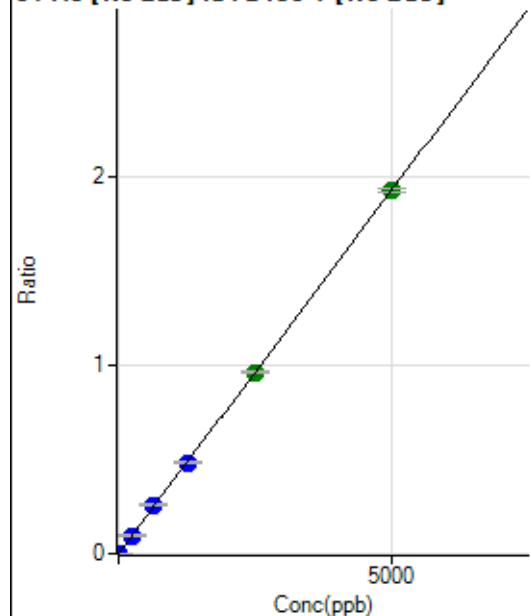
$$DL = 0.02884$$

$$BEC = 0.02833$$

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	233.35	0.0000	P	8.2
2	☐	0.500	0.503	1825.20	0.0002	P	12.3
3	☐	5.000	4.791	15895.58	0.0019	P	2.5
4	☐	250.000	247.527	834021.66	0.0955	P	4.1
5	☐	625.000	671.511	2099949.13	0.2590	P	6.2
6	☐	1250.000	1257.074	4050140.11	0.4848	P	0.6
7	☐	2500.000	2498.029	7992049.66	0.9633	A	1.1
8	☐	5000.000	4993.527	15909104.35	1.9255	A	1.2
9	☐			14788.80	0.0018	P	3.9

$$y = 3.8560E-004 * x + 2.9019E-005$$

$$R = 1.0000$$

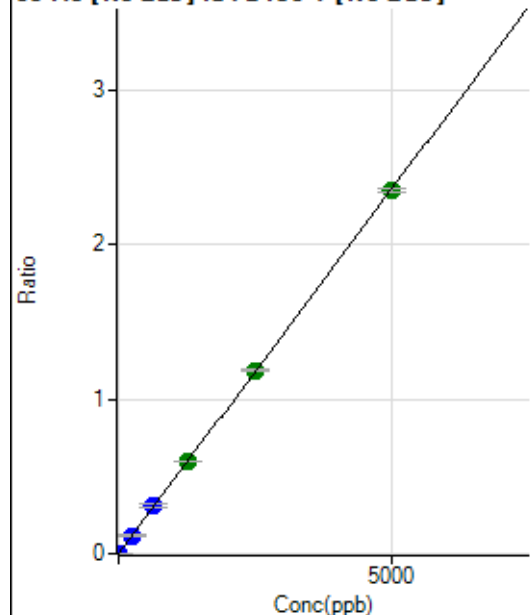
$$DL = 0.01857$$

$$BEC = 0.07526$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	125.01	0.0000	P	14.6
2	☐	0.500	0.514	2114.14	0.0003	P	8.2
3	☐	5.000	5.151	20682.48	0.0024	P	3.5
4	☐	250.000	246.219	1013277.89	0.1160	P	3.8
5	☐	625.000	666.568	2546052.55	0.3140	P	6.3
6	☐	1250.000	1275.048	5017887.61	0.6006	A	0.5
7	☐	2500.000	2519.595	9846731.47	1.1868	A	0.8
8	☐	5000.000	4978.933	19376630.47	2.3452	A	1.1
9	☐			22935.84	0.0028	P	3.4

$$y = 4.7102\text{E-}004 * x + 1.5474\text{E-}005$$

$$R = 0.9999$$

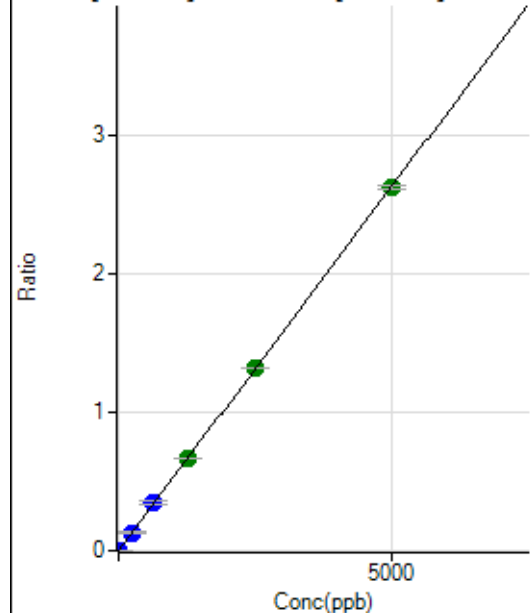
$$DL = 0.01437$$

$$BEC = 0.03285$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	197.23	0.0000	P	30.2
2	☐	0.500	0.488	2300.29	0.0003	P	8.2
3	☐	5.000	5.061	22721.71	0.0027	P	3.4
4	☐	250.000	246.960	1133431.81	0.1297	P	3.8
5	☐	625.000	665.688	2835502.58	0.3497	P	6.3
6	☐	1250.000	1275.464	5597684.72	0.6700	A	0.4
7	☐	2500.000	2509.449	10936525.50	1.3181	A	0.7
8	☐	5000.000	4983.975	21630393.89	2.6179	A	0.9
9	☐			30934.50	0.0038	P	2.5

$$y = 5.2526\text{E-}004 * x + 2.4210\text{E-}005$$

$$R = 1.0000$$

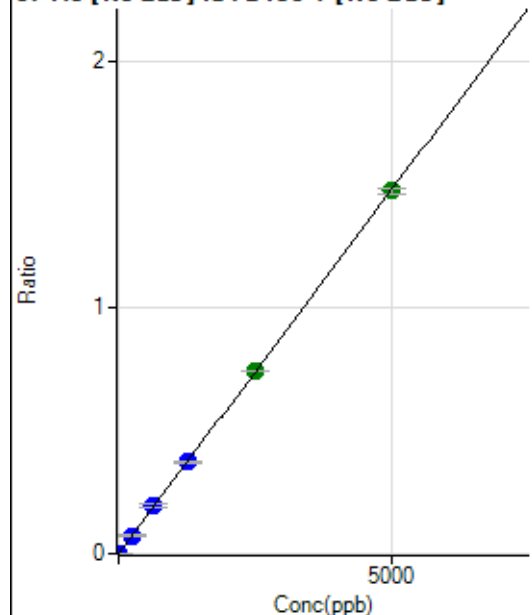
$$DL = 0.04178$$

$$BEC = 0.04609$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	127.79	0.0000	P	21.2
2	☐	0.500	0.509	1361.24	0.0002	P	5.8
3	☐	5.000	5.037	12722.84	0.0015	P	2.3
4	☐	250.000	248.225	640078.97	0.0733	P	3.5
5	☐	625.000	667.625	1597092.34	0.1970	P	7.2
6	☐	1250.000	1257.012	3099244.64	0.3709	P	0.3
7	☐	2500.000	2511.493	6149083.56	0.7411	A	0.9
8	☐	5000.000	4987.261	12159823.19	1.4717	A	1.3
9	☐			14335.54	0.0018	P	3.9

$$y = 2.9509\text{E-}004 * x + 1.5566\text{E-}005$$

$$R = 1.0000$$

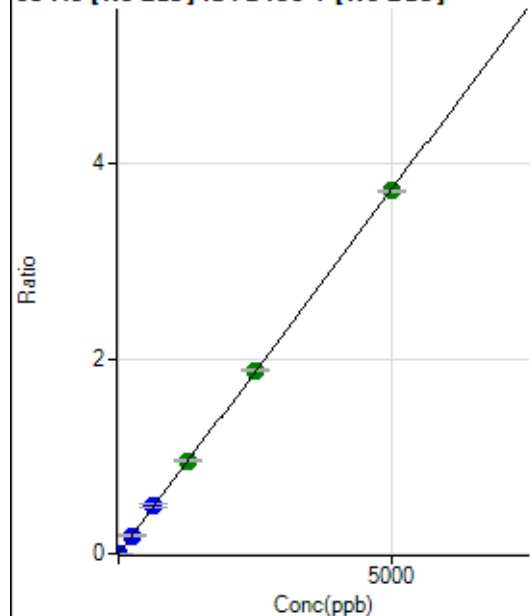
$$DL = 0.03362$$

$$BEC = 0.05275$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	194.46	0.0000	P	11.6
2	☐	0.500	0.526	3422.79	0.0004	P	8.8
3	☐	5.000	5.082	32379.55	0.0038	P	1.8
4	☐	250.000	247.509	1616370.49	0.1850	P	4.0
5	☐	625.000	660.509	4003150.61	0.4937	P	6.5
6	☐	1250.000	1279.644	7991777.09	0.9565	A	0.3
7	☐	2500.000	2510.485	15569562.67	1.8766	A	0.9
8	☐	5000.000	4983.032	30775992.01	3.7248	A	0.7
9	☐			35715.39	0.0044	P	1.3

$$y = 7.4748\text{E-}004 * x + 2.3891\text{E-}005$$

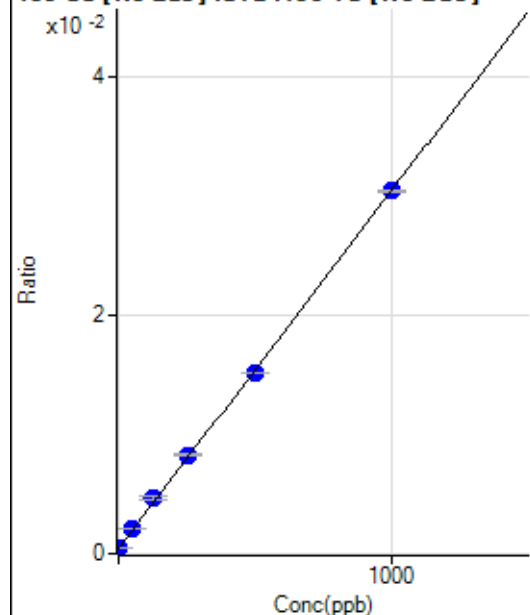
$$R = 1.0000$$

$$DL = 0.01112$$

$$BEC = 0.03196$$

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	3022.69	0.0004	P	5.2
2	☐	0.100	1.132	3264.42	0.0005	P	2.0
3	☐	1.000	2.366	3606.16	0.0005	P	1.1
4	☐	50.000	54.945	15317.25	0.0021	P	2.6
5	☐	125.000	140.965	32895.06	0.0047	P	9.7
6	☐	250.000	262.011	61253.05	0.0083	P	0.3
7	☐	500.000	490.745	114616.46	0.0151	P	0.3
8	☐	1000.000	999.380	224308.77	0.0304	P	0.8
9	☐			3378.33	0.0005	P	6.9

$$y = 2.9961\text{E-}005 * x + 4.2887\text{E-}004$$

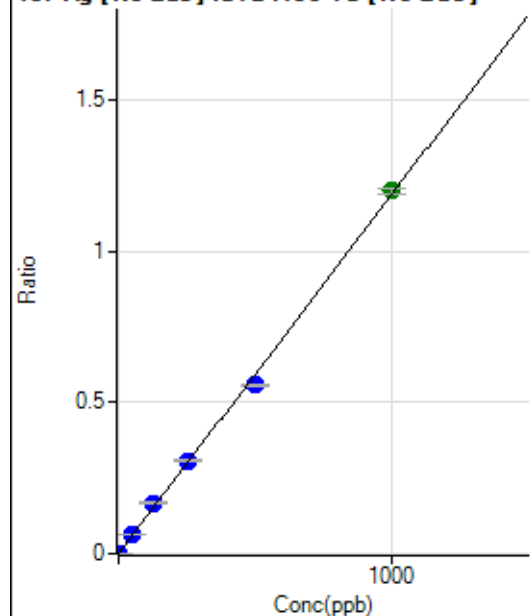
$$R = 0.9998$$

$$DL = 2.223$$

$$BEC = 14.31$$

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	119.45	0.0000	P	28.4
2	☐	0.100	0.107	1016.75	0.0001	P	4.7
3	☐	1.000	1.063	9225.62	0.0013	P	1.0
4	☐	50.000	53.466	468512.90	0.0635	P	3.7
5	☐	125.000	141.291	1187730.20	0.1678	P	6.5
6	☐	250.000	259.061	2275714.29	0.3076	P	1.0
7	☐	500.000	469.243	4219991.46	0.5571	P	0.3
8	☐	1000.000	1010.903	8863755.15	1.2002	A	1.4
9	☐			2016.91	0.0003	P	8.1

$$y = 0.0012 * x + 1.6673\text{E-}005$$

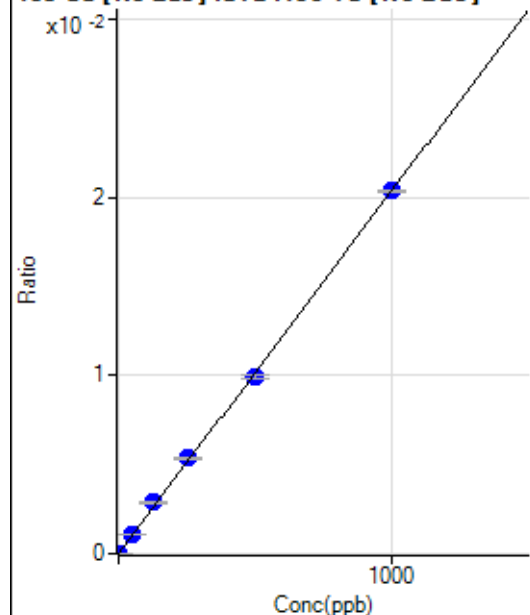
$$R = 0.9992$$

$$DL = 0.01194$$

$$BEC = 0.01404$$

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	9.72	0.0000	P	36.9
2	☐	0.100	0.161	33.33	0.0000	P	20.2
3	☐	1.000	0.847	134.73	0.0000	P	14.2
4	☐	50.000	51.812	7799.52	0.0011	P	3.7
5	☐	125.000	141.455	20424.78	0.0029	P	5.1
6	☐	250.000	263.010	39657.24	0.0054	P	1.2
7	☐	500.000	488.092	75334.05	0.0099	P	1.7
8	☐	1000.000	1000.554	150568.76	0.0204	P	0.7
9	☐			68.06	0.0000	P	34.0

$$y = 2.0375E-005 * x + 1.4135E-006$$

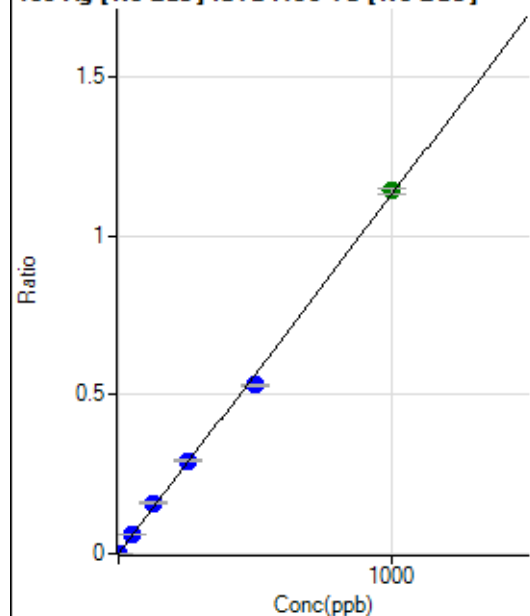
$$R = 0.9997$$

$$DL = 0.07679$$

$$BEC = 0.06938$$

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	66.67	0.0000	P	12.2
2	☐	0.100	0.108	925.07	0.0001	P	10.5
3	☐	1.000	1.089	8942.07	0.0012	P	3.2
4	☐	50.000	53.708	447741.20	0.0607	P	3.5
5	☐	125.000	141.275	1129959.29	0.1596	P	6.4
6	☐	250.000	259.467	2168618.34	0.2931	P	0.4
7	☐	500.000	469.165	4014389.41	0.5300	P	0.6
8	☐	1000.000	1010.831	8432856.26	1.1419	A	1.4
9	☐			1908.54	0.0003	P	15.4

$$y = 0.0011 * x + 9.3655E-006$$

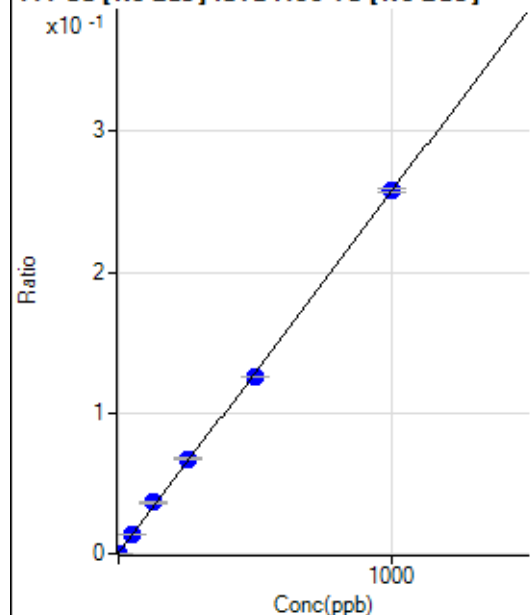
$$R = 0.9992$$

$$DL = 0.003039$$

$$BEC = 0.008291$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2124.36	0.0003	P	5.5
2	☒	0.100					
3	☐	1.000	1.196	4392.68	0.0006	P	3.6
4	☐	50.000	53.139	103004.96	0.0140	P	3.3
5	☐	125.000	139.840	256614.76	0.0362	P	6.2
6	☐	250.000	261.648	499759.06	0.0675	P	0.4
7	☐	500.000	487.012	950351.47	0.1255	P	0.4
8	☐	1000.000	1001.570	1903273.98	0.2577	P	1.1
9	☐			2860.26	0.0004	P	7.3

$$y = 2.5701\text{E-}004 * x + 3.0139\text{E-}004$$

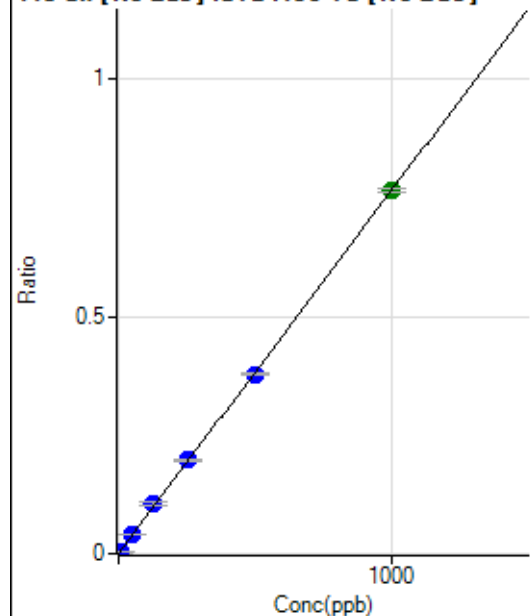
$$R = 0.9997$$

$$DL = 0.1947$$

$$BEC = 1.173$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2469.78	0.0004	P	18.5
2	☐	0.500	0.480	5081.69	0.0007	P	7.1
3	☐	5.000	5.272	31658.95	0.0044	P	2.7
4	☐	50.000	52.831	300935.08	0.0408	P	2.9
5	☐	125.000	137.863	749338.83	0.1058	P	6.5
6	☐	250.000	257.913	1462666.04	0.1977	P	1.3
7	☐	500.000	494.500	2868649.63	0.3787	P	0.3
8	☐	1000.000	999.021	5648054.73	0.7648	A	1.1
9	☐			4592.63	0.0007	P	7.5

$$y = 7.6517\text{E-}004 * x + 3.5437\text{E-}004$$

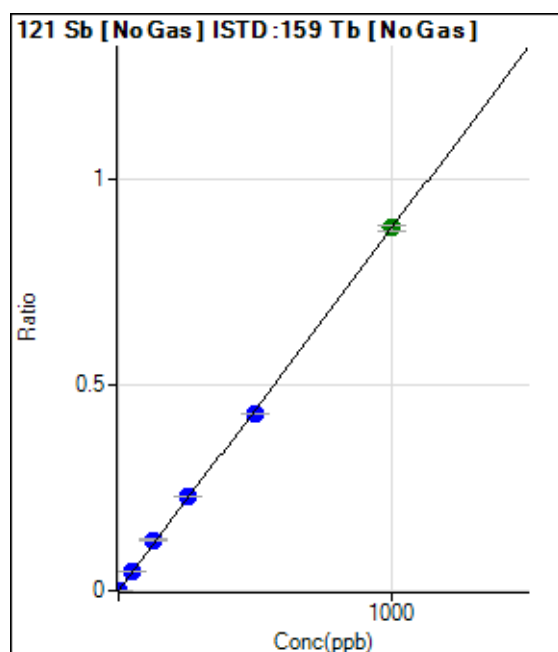
$$R = 0.9999$$

$$DL = 0.2569$$

$$BEC = 0.4631$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	88.89	0.0000	P	32.9
2	☐	0.200	0.214	1408.47	0.0002	P	12.9
3	☐	2.000	2.042	13048.21	0.0018	P	1.6
4	☐	50.000	52.047	337835.06	0.0458	P	2.8
5	☐	125.000	139.846	870687.21	0.1230	P	6.4
6	☐	250.000	261.925	1704011.65	0.2303	P	0.6
7	☐	500.000	487.221	3244984.23	0.4284	P	0.6
8	☐	1000.000	1001.450	6502993.76	0.8806	A	1.3
9	☐			6540.68	0.0009	P	6.7

$$y = 8.7928\text{E-}004 * x + 1.2612\text{E-}005$$

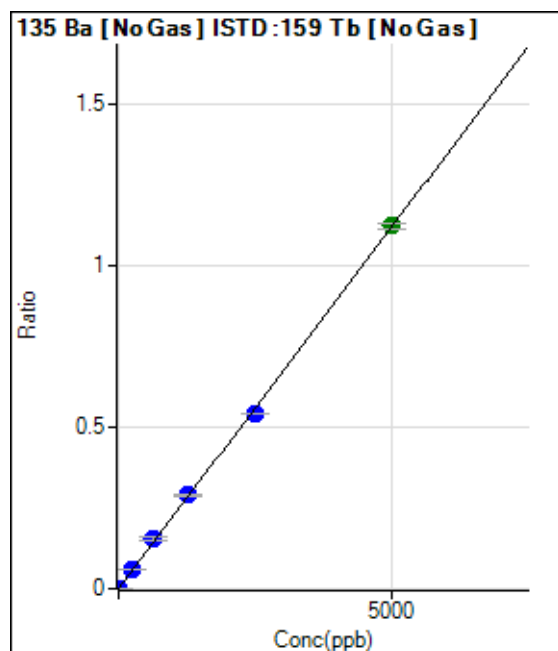
$$R = 0.9997$$

$$DL = 0.01417$$

$$BEC = 0.01434$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11.11	0.0000	P	35.9
2	☐	1.000	1.057	1680.73	0.0002	P	8.4
3	☐	10.000	10.588	17141.64	0.0024	P	3.7
4	☐	250.000	261.124	432049.68	0.0586	P	3.9
5	☐	625.000	693.167	1100755.18	0.1554	P	6.2
6	☐	1250.000	1291.148	2142126.11	0.2895	P	0.4
7	☐	2500.000	2425.523	4119801.87	0.5439	P	0.6
8	☐	5000.000	5017.873	8309831.61	1.1252	A	1.4
9	☐			2036.35	0.0003	P	7.8

$$y = 2.2424\text{E-}004 * x + 1.5540\text{E-}006$$

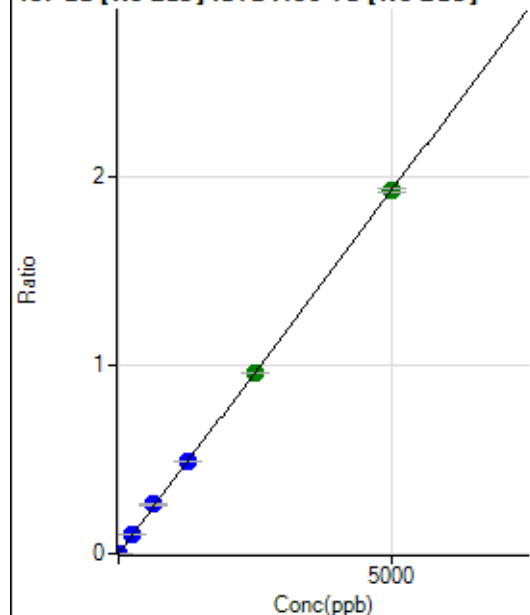
$$R = 0.9997$$

$$DL = 0.007458$$

$$BEC = 0.00693$$

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	30.56	0.0000	P	43.7
2	☐	1.000	1.074	2936.56	0.0004	P	10.6
3	☐	10.000	10.525	29254.02	0.0041	P	1.4
4	☐	250.000	256.414	728087.19	0.0987	P	3.2
5	☐	625.000	681.188	1856215.08	0.2621	P	6.0
6	☐	1250.000	1270.580	3617118.22	0.4889	P	0.5
7	☐	2500.000	2481.854	7233333.93	0.9550	A	0.4
8	☐	5000.000	4996.583	14198856.31	1.9226	A	1.0
9	☐			3503.37	0.0005	P	7.1

$$y = 3.8478E-004 * x + 4.4655E-006$$

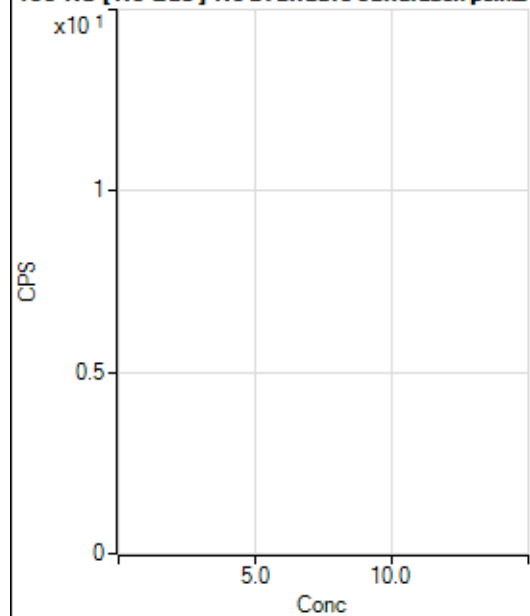
$$R = 0.9999$$

$$DL = 0.01522$$

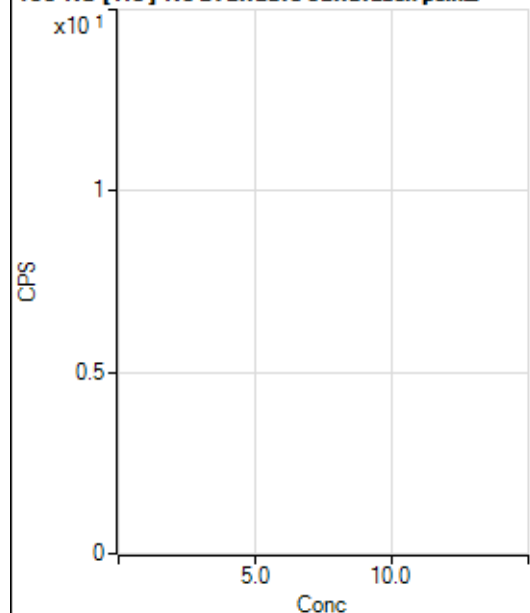
$$BEC = 0.01161$$

Weight: <None>

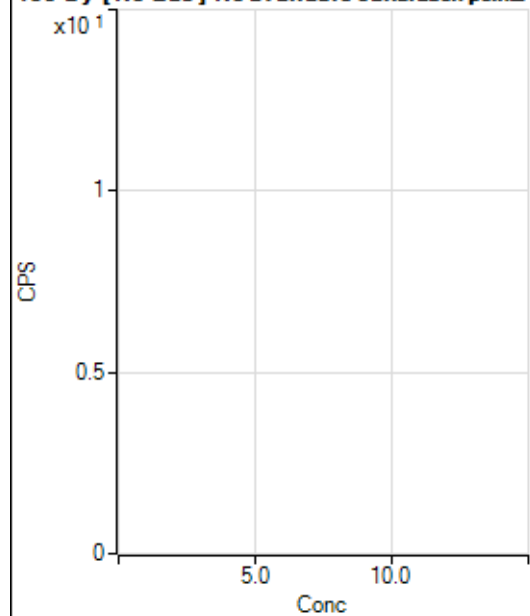
Min Conc: 0

150 Nd [No Gas] No available calibration points

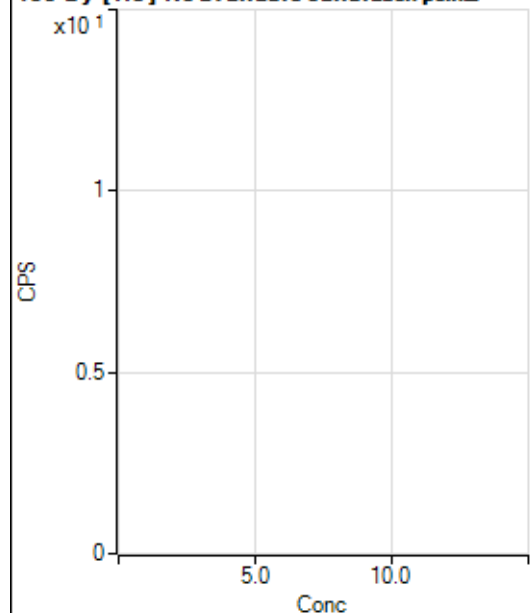
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			6.67		P	100.0
2	☐			11.11		P	91.7
3	☐			8.89		P	43.3
4	☐			55.56		P	27.7
5	☐			111.12		P	29.6
6	☐			240.01		P	10.0
7	☐			355.57		P	13.2
8	☐			626.70		P	9.6
9	☐			84.45		P	16.4

150 Nd [He] No available calibration points

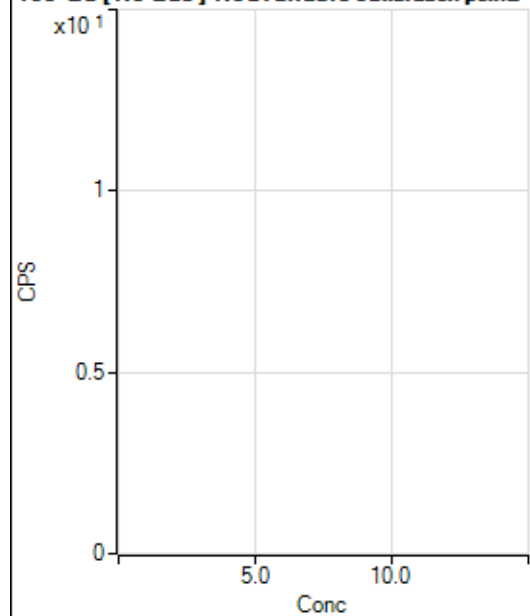
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			11.11		P	75.5
2	☐			7.78		P	24.7
3	☐			4.45		P	86.6
4	☐			16.67		P	NaN
5	☐			8.89		P	43.3
6	☐			21.11		P	24.1
7	☐			37.78		P	27.0
8	☐			75.56		P	19.9
9	☐			26.67		P	33.1

156 Dy [No Gas] No available calibration points

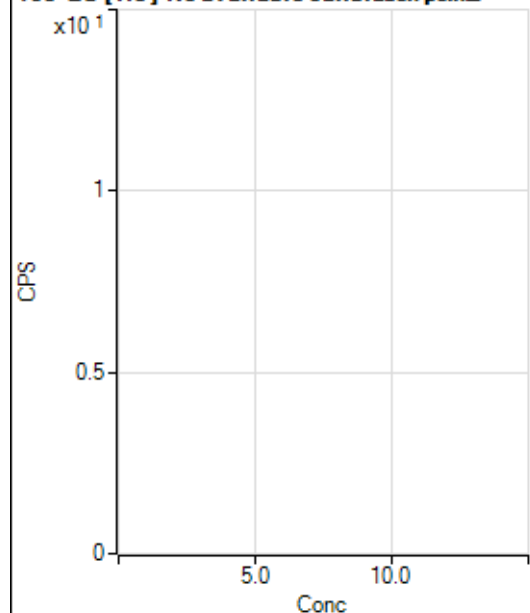
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			13.89		P	91.6
2	☐			13.89		P	69.3
3	☐			11.11		P	86.6
4	☐			30.55		P	15.7
5	☐			36.11		P	35.3
6	☐			75.00		P	44.4
7	☐			75.00		P	29.4
8	☐			150.01		P	11.1
9	☐			50.00		P	0.0

156 Dy [He] No available calibration points

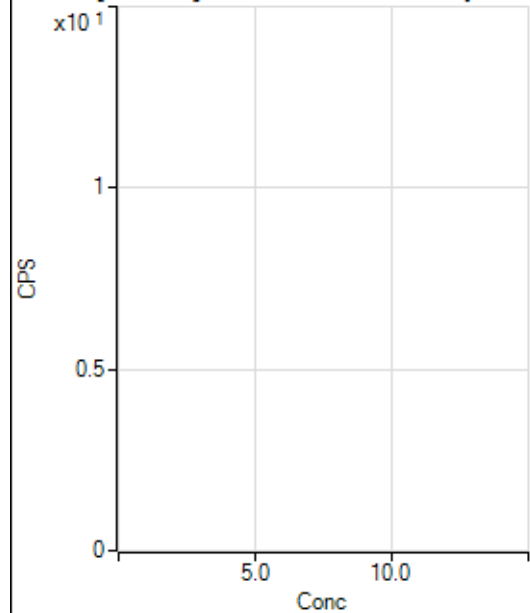
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			20.00		P	16.7
2	☐			14.44		P	35.3
3	☐			21.11		P	24.1
4	☐			31.11		P	43.3
5	☐			57.78		P	26.0
6	☐			75.56		P	6.7
7	☐			111.11		P	10.5
8	☐			193.34		P	7.9
9	☐			28.89		P	24.0

160 Gd [No Gas] Noavailable calibration poin_

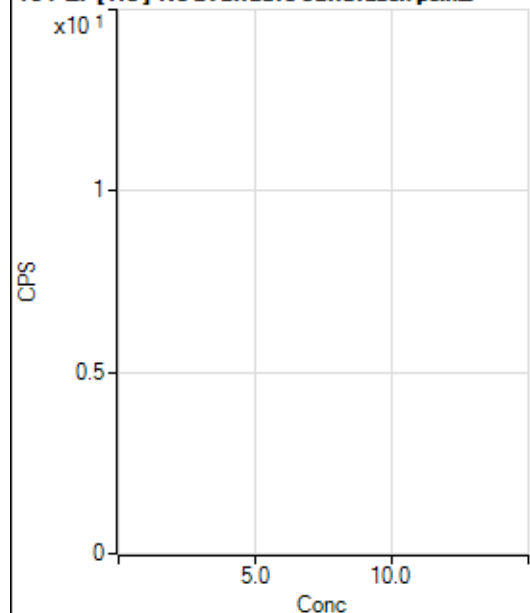
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			63.89		P	32.8
2	☐			61.11		P	20.8
3	☐			69.45		P	27.7
4	☐			77.78		P	6.2
5	☐			86.11		P	20.1
6	☐			72.23		P	46.6
7	☐			86.12		P	29.6
8	☐			83.34		P	30.0
9	☐			102.78		P	26.1

160 Gd [He] No available calibration points

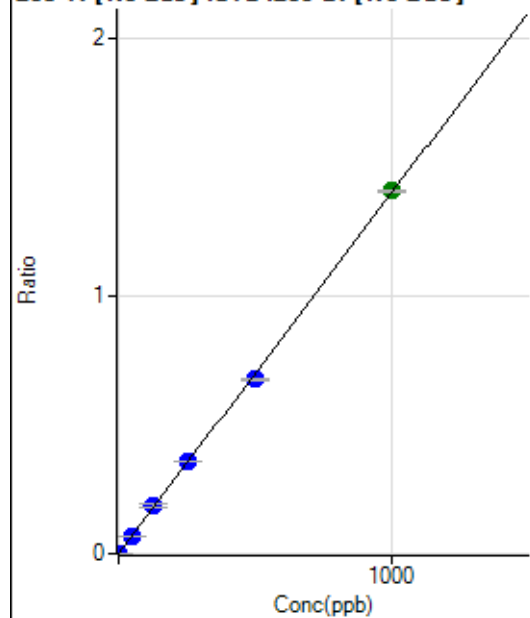
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			181.12		P	17.1
2	☐			165.56		P	11.8
3	☐			168.89		P	10.9
4	☐			174.45		P	14.8
5	☐			163.34		P	14.3
6	☐			175.56		P	7.7
7	☐			185.56		P	7.3
8	☐			185.56		P	2.7
9	☐			185.56		P	19.7

164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			66.67		P	21.6
2	☐			50.00		P	16.7
3	☐			44.44		P	21.7
4	☐			33.33		P	75.0
5	☐			77.78		P	6.2
6	☐			58.34		P	14.3
7	☐			58.34		P	14.3
8	☐			55.56		P	45.8
9	☐			66.67		P	33.1

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐			45.56		P	11.2
2	☐			47.78		P	8.1
3	☐			35.56		P	39.0
4	☐			48.89		P	28.4
5	☐			57.78		P	29.0
6	☐			54.44		P	18.7
7	☐			65.55		P	5.9
8	☐			60.00		P	14.7
9	☐			63.33		P	50.2

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	441.69	0.0001	P	7.4
2	☐	0.100	0.086	922.29	0.0002	P	14.3
3	☐	1.000	0.962	5757.04	0.0015	P	4.7
4	☐	50.000	49.242	274263.69	0.0689	P	2.7
5	☐	125.000	134.010	730108.51	0.1873	P	6.5
6	☐	250.000	254.660	1456832.02	0.3559	P	0.6
7	☐	500.000	483.887	2814354.86	0.6762	P	0.7
8	☐	1000.000	1005.803	5500030.72	1.4054	A	0.5
9	☐			1794.65	0.0005	P	3.0

$$y = 0.0014 * x + 1.1805E-004$$

$$R = 0.9998$$

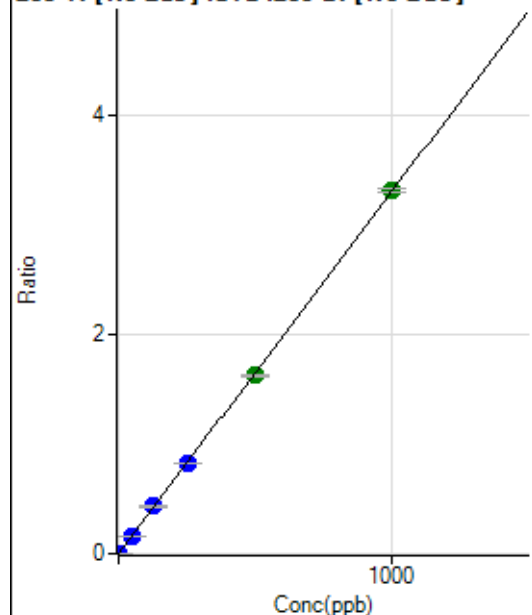
$$DL = 0.0187$$

$$BEC = 0.08449$$

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	575.04	0.0002	P	6.3
2	☐	0.100	0.094	1805.75	0.0005	P	6.8
3	☐	1.000	0.993	13515.77	0.0034	P	1.0
4	☐	50.000	48.466	636834.23	0.1600	P	2.9
5	☐	125.000	130.665	1680025.33	0.4312	P	6.8
6	☐	250.000	249.511	3369514.16	0.8232	P	0.8
7	☐	500.000	492.563	6762849.46	1.6249	A	1.1
8	☐	1000.000	1003.209	12951009.06	3.3092	A	1.0
9	☐			3909.06	0.0012	P	6.1

$$y = 0.0033 * x + 1.5335E-004$$

$$R = 0.9999$$

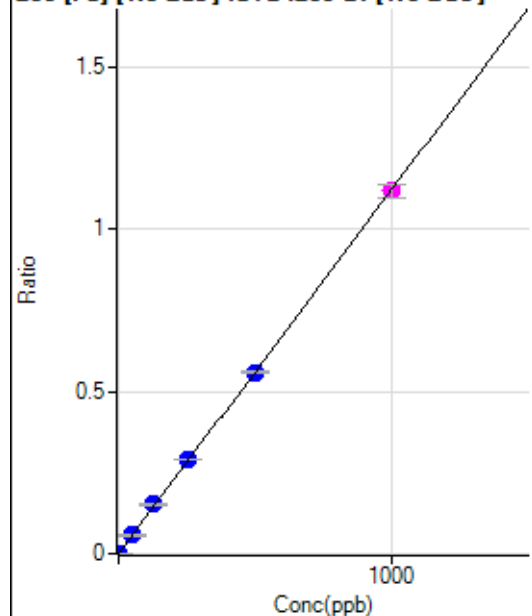
$$DL = 0.008761$$

$$BEC = 0.04649$$

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	651.89	0.0002	P	17.7
2	☐	0.100	0.086	1059.33	0.0003	P	9.0
3	☐	1.000	0.994	5080.73	0.0013	P	0.6
4	☐	50.000	50.259	224903.88	0.0565	P	3.2
5	☐	125.000	135.358	592029.21	0.1519	P	6.5
6	☐	250.000	260.498	1196073.59	0.2922	P	0.6
7	☐	500.000	497.470	2321868.15	0.5579	P	0.9
8	☐	1000.000	997.333	4375819.37	1.1182	M	3.5
9	☐			14317.33	0.0042	P	1.3

$$y = 0.0011 * x + 1.7553E-004$$

$$R = 0.9999$$

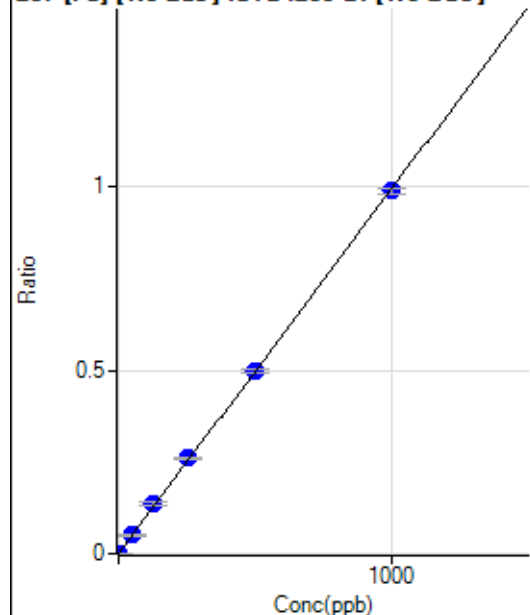
$$DL = 0.0833$$

$$BEC = 0.1566$$

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	700.04	0.0002	P	8.7
2	☐	0.100	0.078	1029.70	0.0003	P	5.8
3	☐	1.000	0.978	4567.59	0.0012	P	3.8
4	☐	50.000	50.145	199048.53	0.0500	P	3.2
5	☐	125.000	136.112	527766.15	0.1354	P	7.0
6	☐	250.000	261.489	1064415.25	0.2600	P	0.6
7	☐	500.000	501.493	2074950.68	0.4985	P	1.3
8	☐	1000.000	994.985	3870310.39	0.9890	P	1.4
9	☐			13362.59	0.0040	P	1.7

$$y = 9.9375\text{E-}004 * x + 1.8717\text{E-}004$$

$$R = 0.9999$$

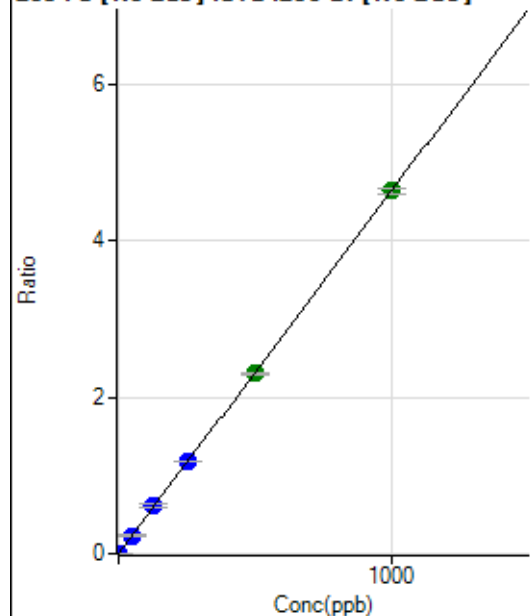
$$DL = 0.04919$$

$$BEC = 0.1883$$

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	2422.37	0.0007	P	13.3
2	☐	0.100	0.086	4065.16	0.0010	P	7.3
3	☐	1.000	0.962	20130.52	0.0051	P	1.2
4	☐	50.000	49.442	913804.24	0.2296	P	3.3
5	☐	125.000	133.051	2403898.72	0.6169	P	6.7
6	☐	250.000	254.715	4831541.68	1.1804	P	0.7
7	☐	500.000	495.730	9558908.19	2.2966	A	0.9
8	☐	1000.000	999.978	18127491.67	4.6321	A	1.5
9	☐			59561.50	0.0176	P	1.0

$$y = 0.0046 * x + 6.5015\text{E-}004$$

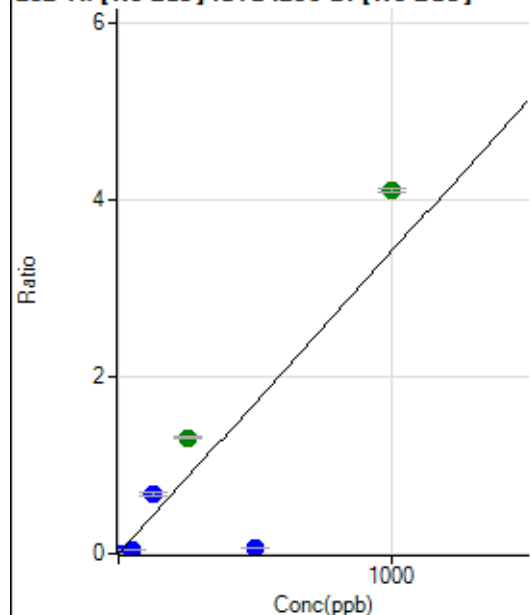
$$R = 0.9999$$

$$DL = 0.05595$$

$$BEC = 0.1404$$

Weight: <None>

Min Conc: 0

²³²Th [No Gas] ISTD :²⁰⁹Bi [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1540.87	0.0004	P	9.2
2	☐	0.100	0.107	3024.53	0.0008	P	6.4
3	☐	1.000	1.280	18877.14	0.0048	P	3.2
4	☐	50.000	12.332	169478.27	0.0426	P	3.2
5	☐	125.000	198.715	2650441.41	0.6800	P	6.3
6	☐	250.000	383.589	5371514.76	1.3123	A	1.1
7	☐	500.000	18.495	264990.99	0.0637	P	1.4
8	☐	1000.000	1200.024	16063524.90	4.1046	A	0.9
9	☐			4180.40	0.0012	P	1.4

$$y = 0.0034 * x + 4.1238E-004$$

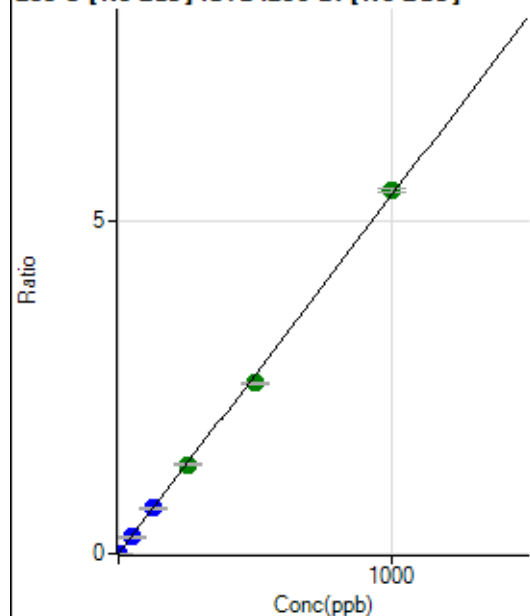
$$R = 0.8706$$

$$DL = 0.03345$$

$$BEC = 0.1206$$

Weight: <None>

Min Conc: 0

²³⁸U [No Gas] ISTD :²⁰⁹Bi [No Gas]

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1808.55	0.0005	P	11.5
2	☐	0.100	0.091	3792.39	0.0010	P	4.3
3	☐	1.000	0.926	21602.12	0.0055	P	2.4
4	☐	50.000	45.680	982252.96	0.2469	P	4.5
5	☐	125.000	126.820	2667818.74	0.6846	P	6.7
6	☐	250.000	248.244	5483273.78	1.3396	A	1.4
7	☐	500.000	475.129	10669802.67	2.5636	A	1.2
8	☐	1000.000	1012.863	21385463.67	5.4644	A	1.2
9	☐			4992.85	0.0015	P	11.0

$$y = 0.0054 * x + 4.8482E-004$$

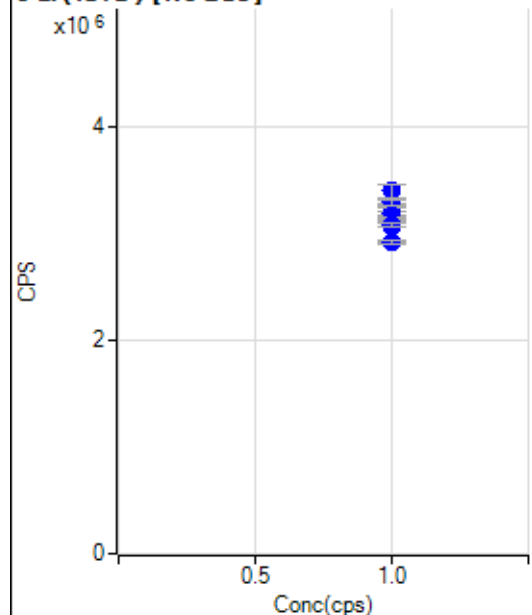
$$R = 0.9996$$

$$DL = 0.03109$$

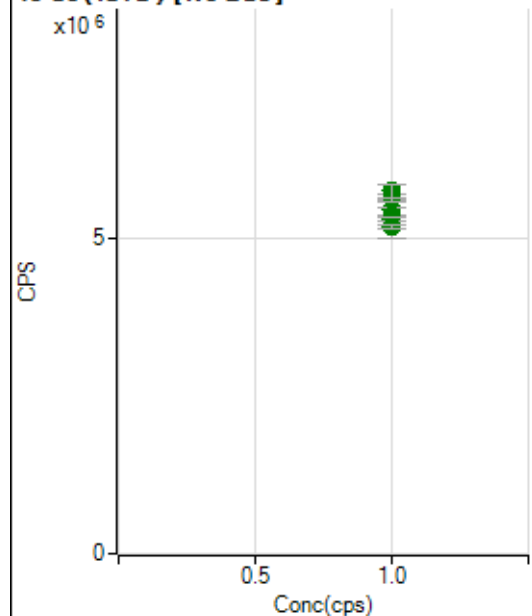
$$BEC = 0.08987$$

Weight: <None>

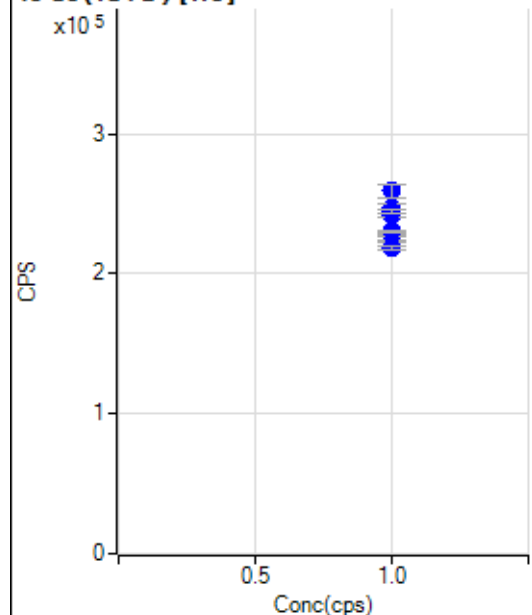
Min Conc: 0

6 Li (ISTD) [No Gas]

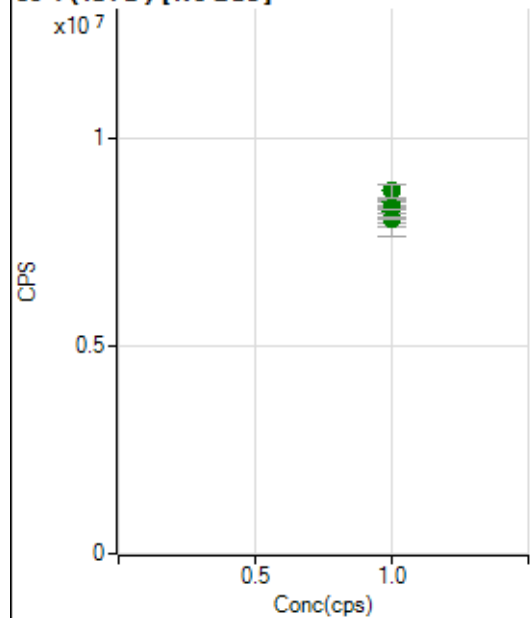
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3058470.16		P	9.0
2	☐	1.000		3189769.74		P	4.8
3	☐	1.000		3290329.60		P	1.6
4	☐	1.000		3392832.90		P	3.5
5	☐	1.000		3167176.97		P	4.8
6	☐	1.000		3168042.10		P	0.4
7	☐	1.000		3142500.99		P	0.6
8	☐	1.000		3080896.20		P	1.0
9	☐	1.000		2907663.88		P	1.0

45 Sc (ISTD) [No Gas]

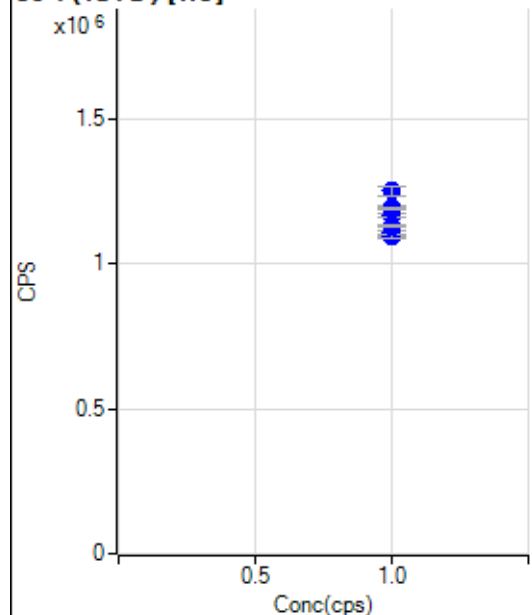
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5329854.98		A	11.5
2	☐	1.000		5477316.44		A	4.9
3	☐	1.000		5649358.85		A	1.9
4	☐	1.000		5764041.75		A	3.7
5	☐	1.000		5332252.25		A	6.1
6	☐	1.000		5372072.17		A	0.4
7	☐	1.000		5346659.67		A	0.5
8	☐	1.000		5311633.15		A	1.2
9	☐	1.000		5183870.34		A	1.0

45 Sc (ISTD) [He]

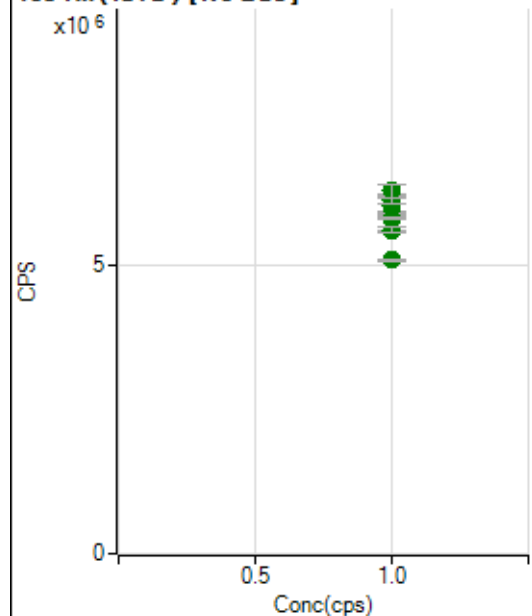
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		242095.32		P	1.1
2	☐	1.000		259180.03		P	3.6
3	☐	1.000		247818.97		P	1.4
4	☐	1.000		244539.37		P	0.8
5	☐	1.000		223522.59		P	0.5
6	☐	1.000		220055.44		P	2.1
7	☐	1.000		218148.31		P	1.6
8	☐	1.000		227592.95		P	0.9
9	☐	1.000		230476.07		P	0.6

89 Y (ISTD) [No Gas]

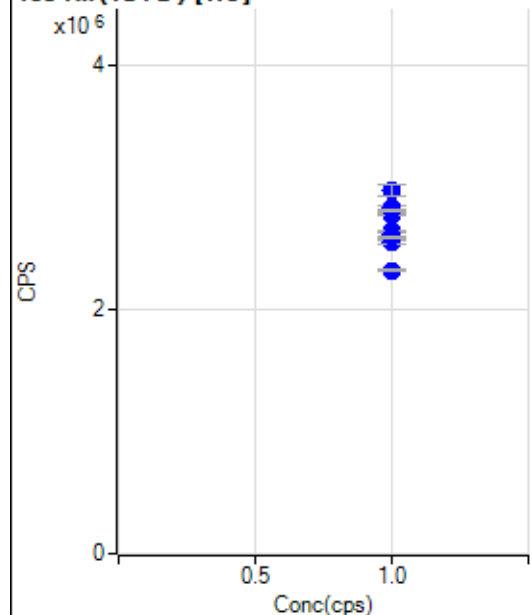
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		8089230.78		A	11.0
2	☐	1.000		8229022.65		A	5.8
3	☐	1.000		8472420.01		A	1.6
4	☐	1.000		8743570.43		A	3.4
5	☐	1.000		8127518.49		A	5.6
6	☐	1.000		8354978.21		A	0.4
7	☐	1.000		8297117.31		A	0.6
8	☐	1.000		8262757.17		A	0.9
9	☐	1.000		8078205.92		A	0.7

89 Y (ISTD) [He]

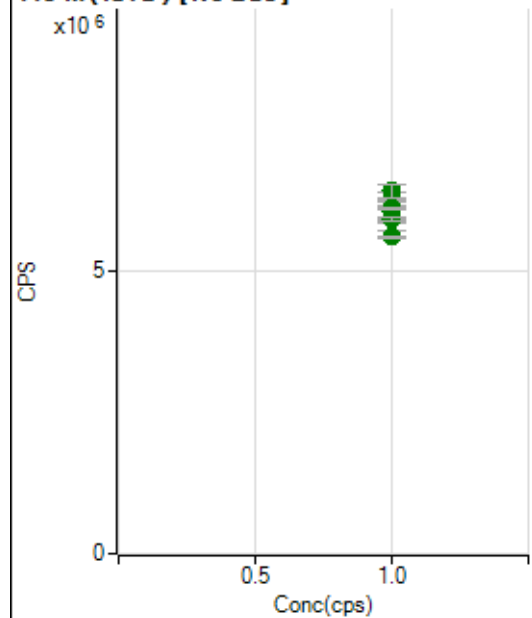
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1167302.26		P	1.3
2	☐	1.000		1253137.01		P	2.9
3	☐	1.000		1195948.17		P	1.3
4	☐	1.000		1190115.02		P	0.4
5	☐	1.000		1109244.46		P	0.9
6	☐	1.000		1111457.47		P	2.8
7	☐	1.000		1095884.36		P	1.5
8	☐	1.000		1131459.44		P	0.2
9	☐	1.000		1131561.65		P	0.7

103 Rh (ISTD) [No Gas]

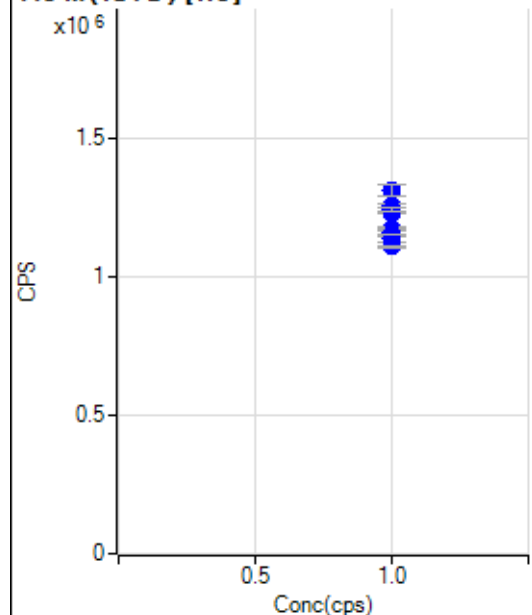
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		5911380.78		A	10.5
2	☐	1.000		6022329.73		A	5.3
3	☐	1.000		6148927.52		A	2.1
4	☐	1.000		6292012.86		A	3.5
5	☐	1.000		5806234.90		A	5.0
6	☐	1.000		5878339.33		A	0.3
7	☐	1.000		5808456.99		A	0.4
8	☐	1.000		5606585.24		A	1.8
9	☐	1.000		5094916.22		A	0.5

103 Rh (ISTD) [He]

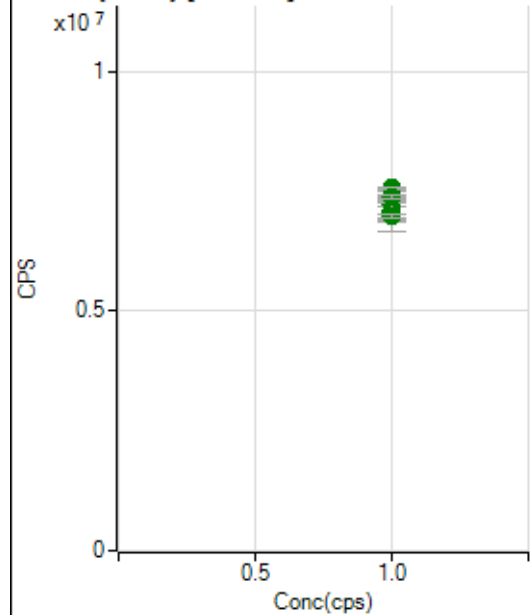
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2780664.61		P	0.4
2	☐	1.000		2975911.17		P	3.1
3	☐	1.000		2837798.67		P	0.8
4	☐	1.000		2817581.10		P	0.6
5	☐	1.000		2645787.58		P	0.8
6	☐	1.000		2616767.98		P	2.6
7	☐	1.000		2559415.40		P	1.4
8	☐	1.000		2597824.70		P	0.3
9	☐	1.000		2324174.56		P	0.7

115 In (ISTD) [No Gas]

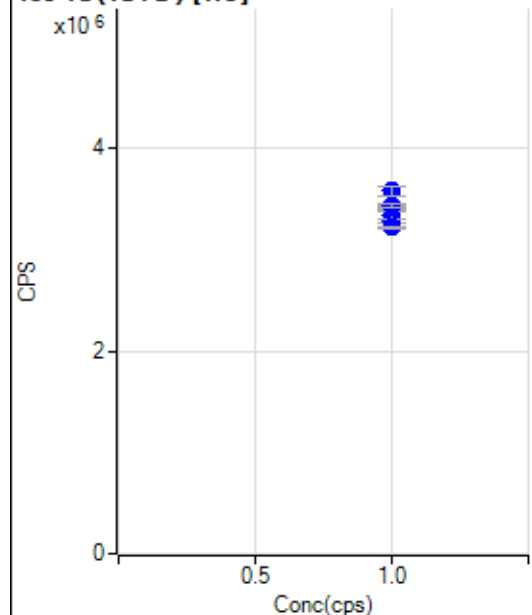
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6055021.77		A	11.1
2	☐	1.000		6086899.77		A	5.2
3	☐	1.000		6253303.57		A	1.2
4	☐	1.000		6415607.76		A	3.4
5	☐	1.000		6049080.86		A	6.4
6	☐	1.000		6129984.19		A	0.5
7	☐	1.000		6107509.78		A	0.5
8	☐	1.000		5929277.09		A	1.2
9	☐	1.000		5597404.81		A	0.9

115 In (ISTD) [He]

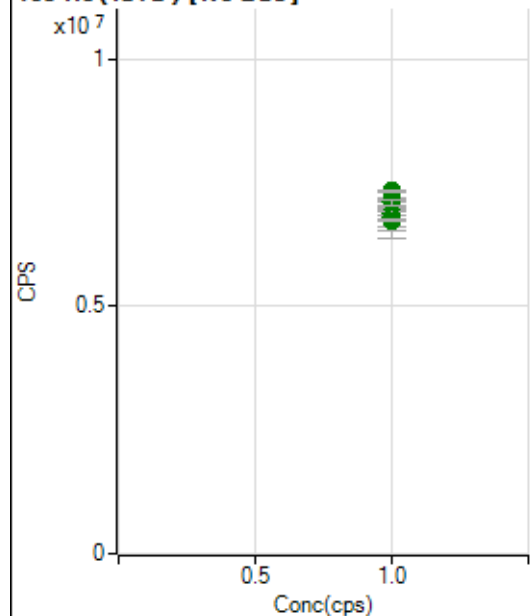
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1228754.30		P	0.4
2	☐	1.000		1307950.66		P	3.3
3	☐	1.000		1257256.15		P	1.1
4	☐	1.000		1240512.42		P	1.2
5	☐	1.000		1169272.92		P	1.1
6	☐	1.000		1157944.51		P	2.6
7	☐	1.000		1136074.99		P	1.9
8	☐	1.000		1150819.73		P	0.4
9	☐	1.000		1107324.67		P	0.4

159 Tb (ISTD) [No Gas]

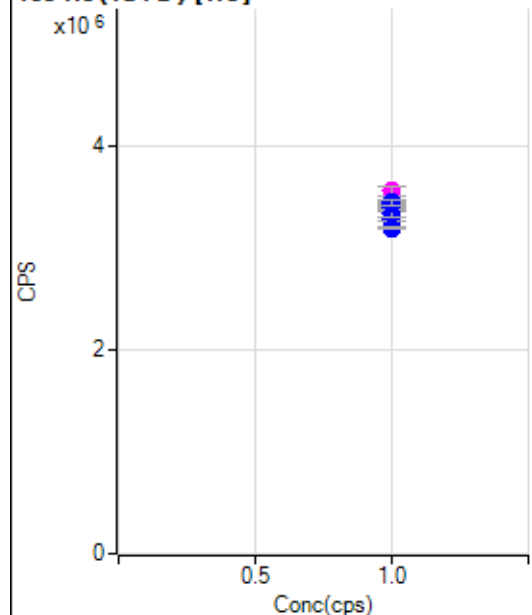
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		7060320.03		A	10.7
2	☐	1.000		7056712.81		A	5.9
3	☐	1.000		7215993.37		A	0.9
4	☐	1.000		7383693.92		A	2.9
5	☐	1.000		7097677.19		A	5.9
6	☐	1.000		7398596.35		A	0.4
7	☐	1.000		7574335.51		A	0.2
8	☐	1.000		7385726.21		A	1.1
9	☐	1.000		6976322.74		A	0.9

159 Tb (ISTD) [He]

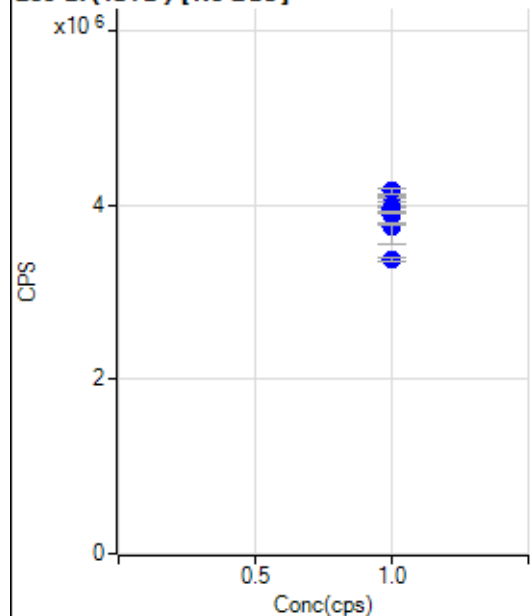
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3395746.79		P	0.9
2	☐	1.000		3582908.87		P	2.8
3	☐	1.000		3404291.51		P	1.6
4	☐	1.000		3397417.73		P	0.6
5	☐	1.000		3292376.62		P	1.0
6	☐	1.000		3345058.67		P	2.5
7	☐	1.000		3418650.54		P	1.8
8	☐	1.000		3432875.75		P	1.2
9	☐	1.000		3223661.72		P	0.4

165 Ho (ISTD) [No Gas]

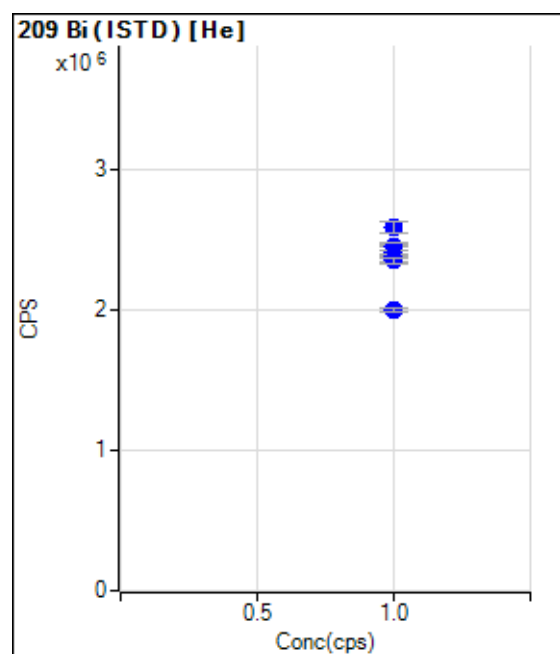
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		6776408.40		A	12.0
2	☐	1.000		6732800.84		A	6.2
3	☐	1.000		6883267.52		A	0.9
4	☐	1.000		7036994.47		A	3.5
5	☐	1.000		6789636.92		A	5.9
6	☐	1.000		7140097.16		A	0.8
7	☐	1.000		7335649.21		A	0.4
8	☐	1.000		7110752.85		A	1.7
9	☐	1.000		6732480.71		A	0.7

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3404780.16		P	0.3
2	☐	1.000		3561776.65		M	2.5
3	☐	1.000		3392387.20		P	2.2
4	☐	1.000		3396035.33		P	1.7
5	☐	1.000		3286680.50		P	0.8
6	☐	1.000		3344048.60		P	1.9
7	☐	1.000		3443565.99		P	1.1
8	☐	1.000		3447273.73		P	1.5
9	☐	1.000		3199924.75		P	0.5

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3761093.90		P	10.6
2	☐	1.000		3892528.31		P	5.2
3	☐	1.000		3940889.28		P	1.4
4	☐	1.000		3982083.83		P	3.3
5	☐	1.000		3907817.06		P	6.5
6	☐	1.000		4093364.04		P	0.8
7	☐	1.000		4162448.06		P	1.3
8	☐	1.000		3913661.23		P	0.6
9	☐	1.000		3383212.97		P	1.4



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2454384.51		P	0.7
2	☐	1.000		2584631.91		P	3.2
3	☐	1.000		2452823.49		P	2.7
4	☐	1.000		2411002.79		P	1.5
5	☐	1.000		2362469.69		P	1.3
6	☐	1.000		2367465.57		P	2.4
7	☐	1.000		2388654.34		P	1.3
8	☐	1.000		2351558.51		P	1.6
9	☐	1.000		2002289.80		P	1.0

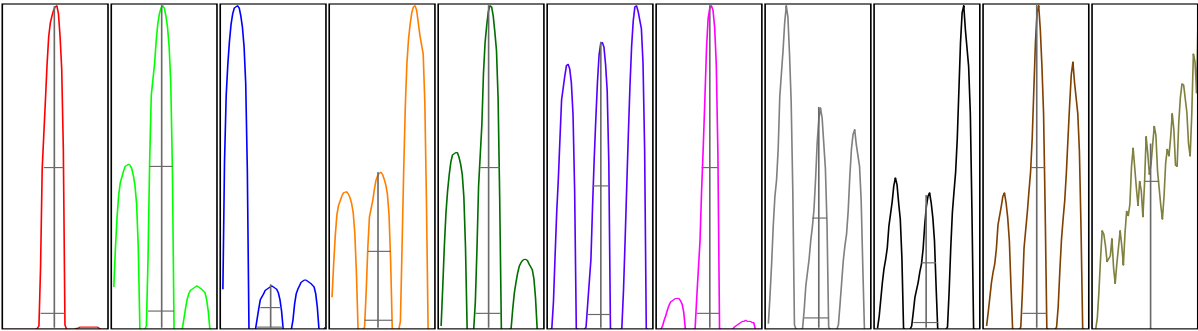
US EPA Tune Check Sample Report

Batch Folder D:\ICP-MS Data\P7111519-MSA.b
Report Comment
Instrument Name G8403A JP14410463

[No Gas]				
Mass	Count	RSD%	RSD%	RSD%
	(Mean)	(Actual)	(Required)	(Flag)
9	12635	0.54	5.00	
24	107980	0.90	5.00	
25	14163	0.57	5.00	
26	16375	0.60	5.00	
59	68189	0.75	5.00	
113	6957	0.69	5.00	
115	80755	0.70	5.00	
206	15391	0.98	5.00	
207	13900	0.81	5.00	
208	33152	0.68	5.00	
220	74	2.91		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	12585	12707	12690	12645	12547
24	106550	108328	108785	108808	107430
25	14101	14185	14266	14201	14063
26	16287	16444	16505	16357	16280
59	67910	68549	68604	68461	67418
113	6884	6981	7006	6976	6937
115	80464	81250	81360	80696	80003
206	15258	15632	15407	15388	15270
207	13817	13977	14027	13924	13753
208	32925	33171	33472	33238	32955
220	72	71	75	74	76

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width- X% (Flag)
9	21953	9.00	8.9 - 9.1		0.736	0.900	
24	176011	23.95	23.9 - 24.1		0.784	0.900	
25	23518	24.95	24.9 - 25.1		0.784	0.900	
26	26605	25.90	25.9 - 26.1		0.784	0.900	
59	124178	58.95	58.9 - 59.1		0.765	0.900	
113	14792	113.05	112.9 - 113.1		0.669	0.900	
115	172382	115.05	114.9 - 115.1		0.672	0.900	
206	35633	206.05	205.9 - 206.1		0.718	0.900	
207	31412	207.00	206.9 - 207.1		0.729	0.900	
208	76103	208.05	207.9 - 208.1		0.724	0.900	
220	76	220.20	-				

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	7.9	V	Deflect	13.8	V
Extract 2	-130.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-65	V	Cell Exit	-50	V			

Cell Parameters

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

[He]

Mass	Count	RSD%	RSD%
	(Mean)	(Actual)	(Required)
59	16427	0.88	
89	13297	0.74	
205	13376	1.13	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	16447	16276	16613	16506	16290
89	13320	13177	13413	13360	13215
205	13411	13209	13520	13514	13227

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	8.1	V	Deflect	2.0	V
Extract 2	-145.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-75	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	180	V			