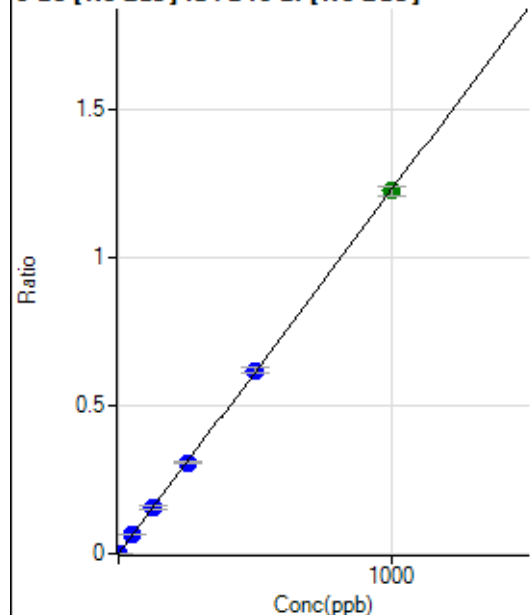


Batch Folder: D:\P8031119-IMS.b\
Analysis File: P8031119-IMS.batch.bin
DA Date-Time: 2019-03-12 00:35:47
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	S00	2019-03-11 14:09:36
2			
3	005CALS.d	S02	2019-03-11 14:17:00
4	006CALS.d	S03	2019-03-11 14:20:53
5	007CALS.d	S04	2019-03-11 14:24:44
6	008CALS.d	S05	2019-03-11 14:28:30
7	009CALS.d	S06	2019-03-11 14:32:09
8	010CALS.d	S07	2019-03-11 14:35:44
9	011CALS.d	S08	2019-03-11 14:39:11

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	105.56	0.0001	P	18.9
2	☐	0.100					
3	☐	1.000	0.884	1450.09	0.0012	P	3.0
4	☐	50.000	51.851	77852.36	0.0639	P	5.3
5	☐	125.000	126.662	194335.80	0.1559	P	4.6
6	☐	250.000	249.256	382542.48	0.3067	P	2.0
7	☐	500.000	504.325	753241.52	0.6204	P	2.7
8	☐	1000.000	997.723	1478448.90	1.2273	A	2.6
9	☐			233.34	0.0002	P	9.9

$$y = 0.0012 * x + 8.9567E-005$$

$$R = 1.0000$$

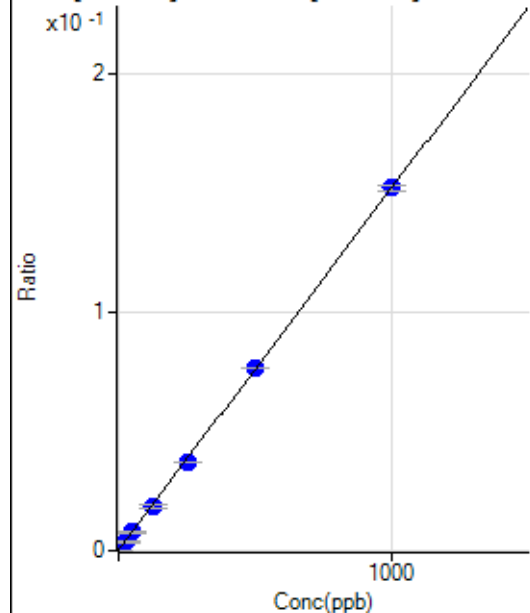
$$DL = 0.04127$$

$$BEC = 0.07282$$

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	358.36	0.0003	P	15.1
2	☐	2.500					
3	☐	25.000	22.220	4523.11	0.0037	P	5.8
4	☐	50.000	49.477	9509.09	0.0078	P	5.5
5	☐	125.000	122.512	23492.32	0.0189	P	8.6
6	☐	250.000	241.907	46105.56	0.0370	P	1.4
7	☐	500.000	503.388	93011.78	0.0766	P	0.8
8	☐	1000.000	1000.736	183064.14	0.1519	P	1.6
9	☐			7215.98	0.0061	P	3.4

$$y = 1.5152E-004 * x + 3.0445E-004$$

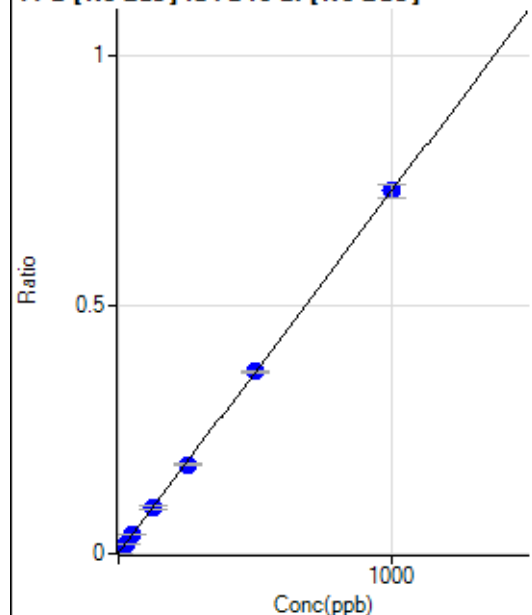
$$R = 1.0000$$

$$DL = 0.912$$

$$BEC = 2.009$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	1461.25	0.0012	P	20.3
2	☐	2.500					
3	☐	25.000	22.852	22028.85	0.0179	P	4.8
4	☐	50.000	50.948	46713.32	0.0383	P	5.9
5	☐	125.000	124.152	114107.36	0.0916	P	7.4
6	☐	250.000	244.897	223912.77	0.1795	P	1.5
7	☐	500.000	501.148	444519.93	0.3660	P	1.2
8	☐	1000.000	1000.814	879032.76	0.7297	P	3.4
9	☐			34760.02	0.0293	P	5.0

$$y = 7.2785E-004 * x + 0.0012$$

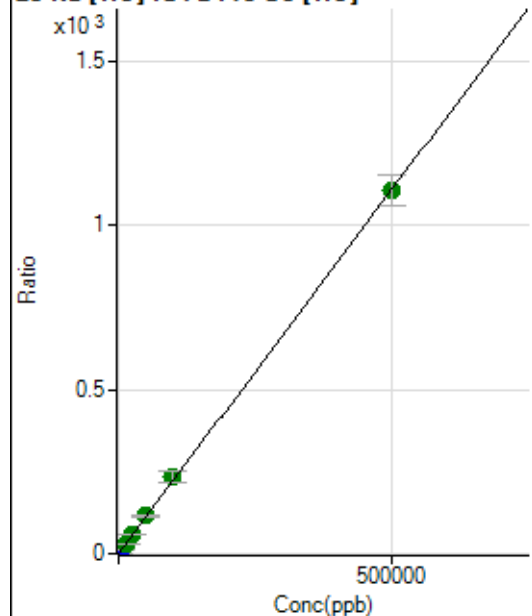
$$R = 1.0000$$

$$DL = 1.042$$

$$BEC = 1.709$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	6804.69	0.1305	P	4.4
2	☐	50.000					
3	☐	500.000	474.271	61720.90	1.1812	P	0.8
4	☐	5000.000	5132.985	595568.21	11.5018	P	0.9
5	☐	12500.000	13332.228	1490976.78	29.6658	A	4.5
6	☐	25000.000	25238.662	2915600.98	56.0424	A	0.8
7	☐	50000.000	51529.281	5722967.14	114.2847	A	8.3
8	☐	100000.00	105507.92	11263540.09	233.8651	A	16.9
9	☐	500000.00	498711.44	56985970.72	1,104.939	A	8.4

$$y = 0.0022 * x + 0.1305$$

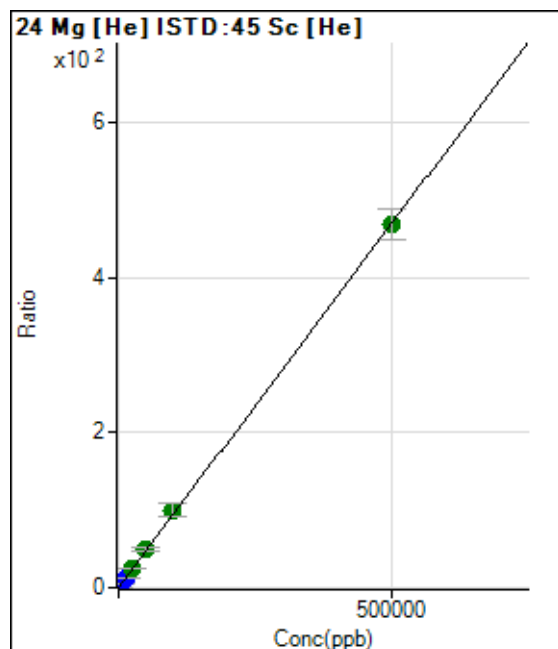
$$R = 0.9999$$

$$DL = 7.862$$

$$BEC = 58.92$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	527.81	0.0101	P	8.1
2	☐	50.000					
3	☐	500.000	492.074	24652.92	0.4720	P	4.7
4	☐	5000.000	5252.861	255817.53	4.9406	P	1.4
5	☐	12500.000	13222.089	624197.62	12.4208	P	4.9
6	☐	25000.000	25477.768	1244725.00	23.9243	A	0.4
7	☐	50000.000	52423.333	2464323.77	49.2162	A	8.4
8	☐	100000.00	106014.50	4789701.54	99.5185	A	17.6
9	☐	500000.00	498510.30	24130273.63	467.9268	A	8.5

$$y = 9.3863\text{E-}004 * x + 0.0101$$

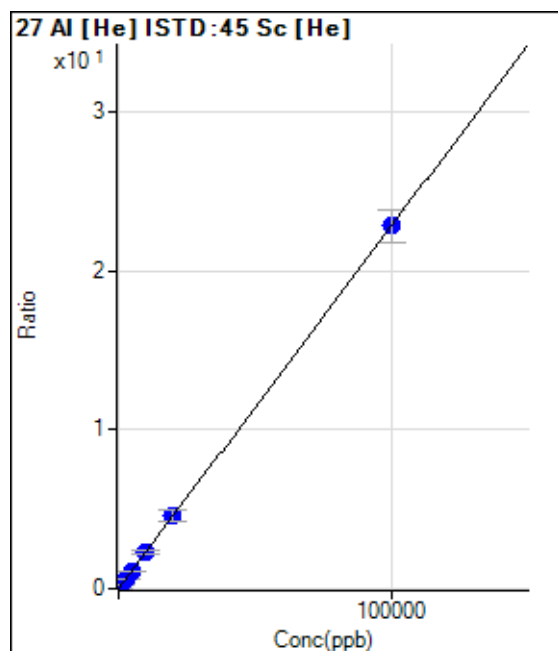
$$R = 0.9999$$

$$DL = 2.604$$

$$BEC = 10.78$$

Weight: <None>

Min Conc: 0



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	59.19	0.0011	P	1.3
2	☐	2.000					
3	☐	20.000	17.812	271.74	0.0052	P	8.4
4	☐	1000.000	992.834	11790.44	0.2277	P	1.2
5	☐	2500.000	2477.336	28478.09	0.5665	P	3.8
6	☐	5000.000	4702.519	55886.18	1.0743	P	1.5
7	☐	10000.000	9926.929	113476.68	2.2665	P	8.6
8	☐	20000.000	20145.904	221405.34	4.5985	P	17.2
9	☐	100000.00	99993.639	1176694.56	22.8202	P	8.7

$$y = 2.2821\text{E-}004 * x + 0.0011$$

$$R = 1.0000$$

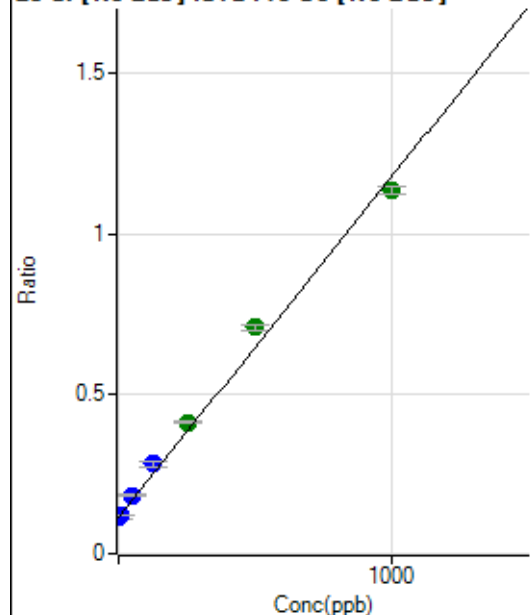
$$DL = 0.1966$$

$$BEC = 4.973$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	363949.93	0.1137	P	10.9
2	☐	1.000					
3	☐	10.000	5.979	401218.89	0.1201	P	2.3
4	☐	50.000	64.443	595635.06	0.1823	P	4.3
5	☐	125.000	156.505	940649.14	0.2802	P	7.2
6	☐	250.000	279.726	1393051.34	0.4112	A	2.4
7	☐	500.000	558.262	2381803.41	0.7074	A	2.3
8	☐	1000.000	958.818	3824989.84	1.1334	A	2.0
9	☐			474943.27	0.1414	P	1.1

$$y = 0.0011 * x + 0.1137$$

$$R = 0.9965$$

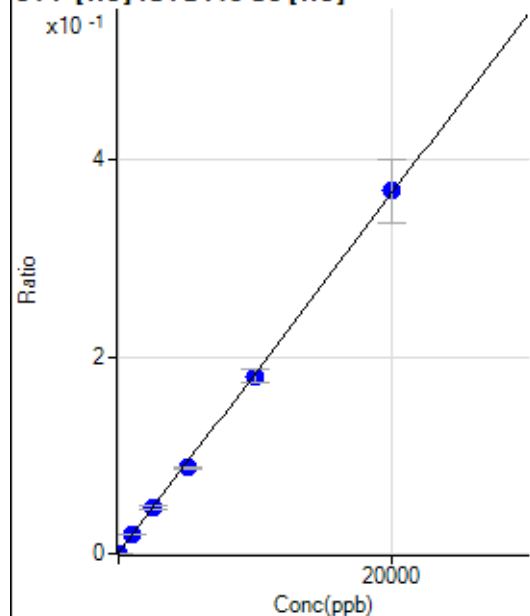
$$DL = 35.1$$

$$BEC = 107$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-14.462	22.22	0.0004	P	94.9
2	☐	0.000					
3	☐	0.000	14.462	50.00	0.0010	P	1.8
4	☐	1000.000	1016.636	997.30	0.0193	P	6.2
5	☐	2500.000	2547.664	2372.52	0.0472	P	7.2
6	☐	5000.000	4727.811	4528.72	0.0871	P	4.2
7	☐	10000.000	9827.519	9028.30	0.1803	P	7.8
8	☐	20000.000	20147.498	17750.69	0.3688	P	17.7
9	☐			22.22	0.0004	P	22.0

$$y = 1.8271E-005 * x + 6.9276E-004$$

$$R = 0.9998$$

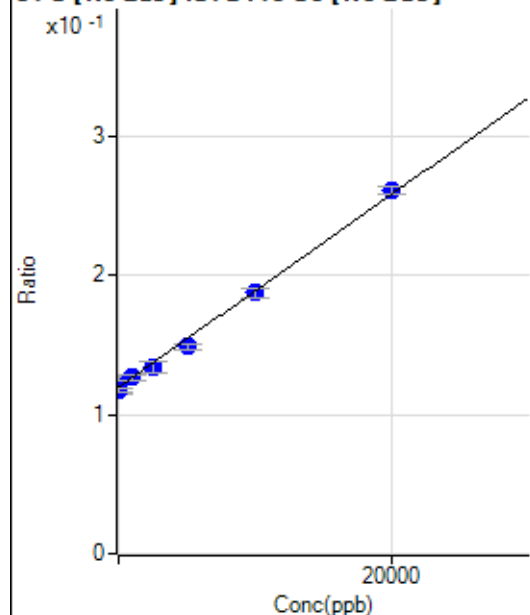
$$DL = 34.85$$

$$BEC = 37.92$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	246.943	387720.95	0.1211	P	10.7
2	☐	0.000					
3	☐	0.000	-246.943	393286.40	0.1177	P	2.1
4	☐	1000.000	1046.700	414111.89	0.1267	P	3.1
5	☐	2500.000	2083.127	449687.15	0.1339	P	5.9
6	☐	5000.000	4246.779	504245.95	0.1489	P	2.8
7	☐	10000.000	9793.225	630398.21	0.1873	P	3.6
8	☐	20000.000	20341.467	878670.22	0.2604	P	2.2
9	☐			357580.61	0.1064	P	2.0

$$y = 6.9282\text{E-}006 * x + 0.1194$$

$$R = 0.9988$$

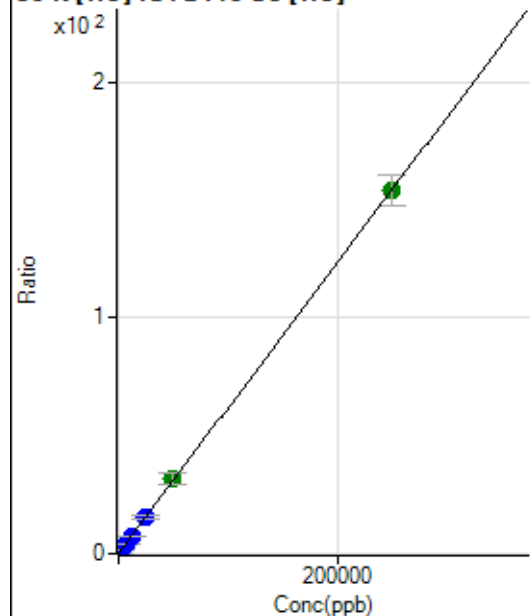
$$DL = 3331$$

$$BEC = 1.724\text{E}+04$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5545.75	0.1064	P	3.3
2	☐	50.000					
3	☐	500.000	448.215	19976.03	0.3823	P	1.6
4	☐	2500.000	2514.326	85641.22	1.6540	P	1.6
5	☐	6250.000	6366.628	202244.02	4.0252	P	5.6
6	☐	12500.000	11887.078	386184.74	7.4232	P	1.1
7	☐	25000.000	24919.496	773505.16	15.4451	P	8.1
8	☐	50000.000	51695.431	1538182.01	31.9266	A	16.5
9	☐	250000.00	249696.65	7931982.64	153.8029	A	8.4

$$y = 6.1553\text{E-}004 * x + 0.1064$$

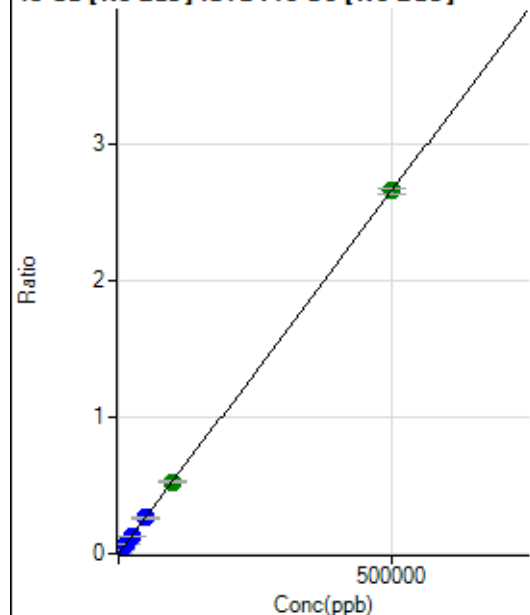
$$R = 1.0000$$

$$DL = 17.05$$

$$BEC = 172.8$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	381.12	0.0001	P	18.4
2	☐	50.000					
3	☐	500.000	456.066	8478.25	0.0025	P	4.1
4	☐	5000.000	5132.435	89326.84	0.0273	P	4.7
5	☐	12500.000	12456.951	222286.67	0.0662	P	6.2
6	☐	25000.000	24527.398	441038.08	0.1302	P	2.7
7	☐	50000.000	49340.312	881194.17	0.2618	P	3.4
8	☐	100000.00	99093.178	1773529.66	0.5256	A	3.6
9	☐	500000.00	500270.75	8912785.98	2.6532	A	1.4

$$y = 5.3033\text{E-}006 * x + 1.1972\text{E-}004$$

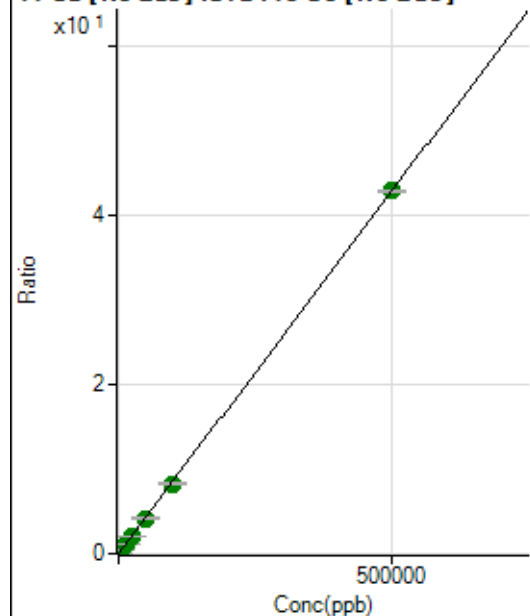
$$R = 1.0000$$

$$DL = 12.43$$

$$BEC = 22.58$$

Weight: <None>

Min Conc: 0

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

	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31105.73	0.0097	P	10.7
2	☐	50.000					
3	☐	500.000	453.433	161995.23	0.0485	P	2.2
4	☐	5000.000	5206.373	1486638.81	0.4549	A	4.0
5	☐	12500.000	12429.300	3603016.58	1.0725	A	5.7
6	☐	25000.000	24458.959	7117432.88	2.1011	A	2.8
7	☐	50000.000	48899.518	14105412.71	4.1910	A	4.1
8	☐	100000.00	96554.994	27892138.75	8.2659	A	3.0
9	☐	500000.00	500825.85	143898076.7	42.8342	A	0.8

$$y = 8.5508\text{E-}005 * x + 0.0097$$

$$R = 1.0000$$

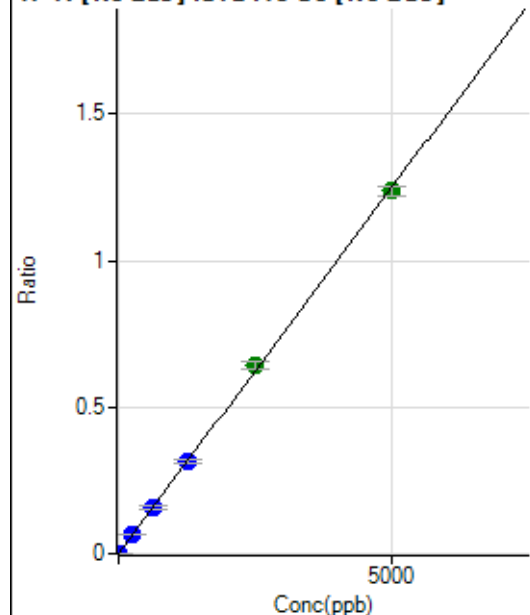
$$DL = 36.63$$

$$BEC = 113.7$$

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	361.13	0.0001	P	32.0
2	☐	0.500					
3	☐	5.000	4.535	4161.94	0.0012	P	6.3
4	☐	250.000	261.759	213828.01	0.0654	P	4.5
5	☐	625.000	632.252	530271.85	0.1579	P	6.5
6	☐	1250.000	1262.284	1067393.27	0.3151	P	3.3
7	☐	2500.000	2573.522	2162017.56	0.6424	A	4.0
8	☐	5000.000	4958.674	4176121.75	1.2376	A	3.0
9	☐			816.73	0.0002	P	9.6

$$y = 2.4956E-004 * x + 1.1462E-004$$

$$R = 0.9998$$

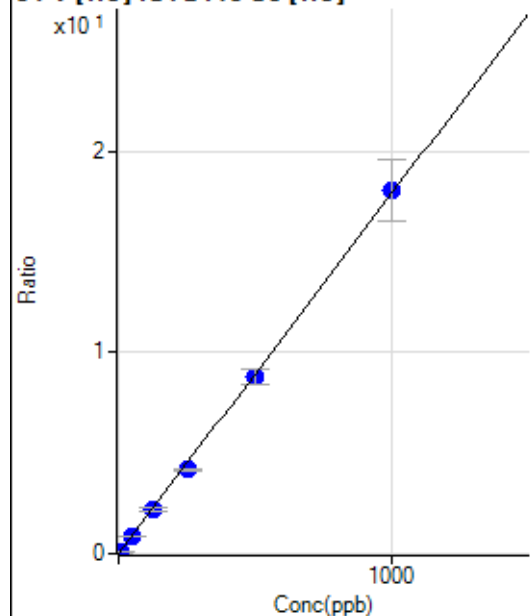
$$DL = 0.4407$$

$$BEC = 0.4593$$

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	37.78	0.0007	P	21.6
2	☐	0.500					
3	☐	5.000	4.603	4340.75	0.0830	P	2.0
4	☐	50.000	48.292	44757.08	0.8644	P	1.8
5	☐	125.000	122.761	110323.84	2.1963	P	6.5
6	☐	250.000	234.136	217870.86	4.1883	P	1.9
7	☐	500.000	492.205	440860.54	8.8039	P	8.3
8	☐	1000.000	1008.231	868498.72	18.0330	P	16.9
9	☐			134.45	0.0026	P	25.1

$$y = 0.0179 * x + 7.2554E-004$$

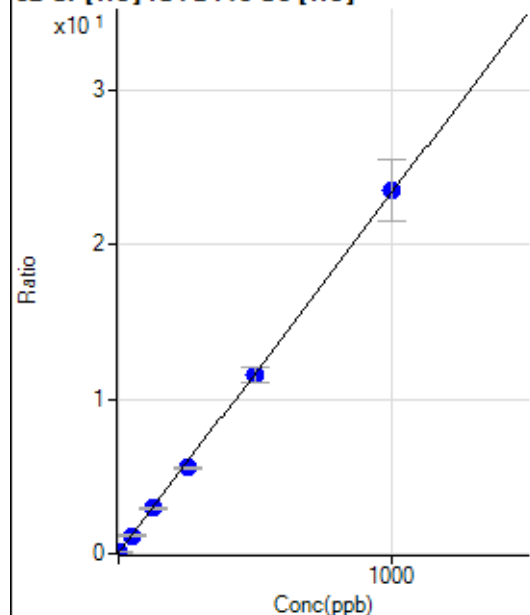
$$R = 0.9998$$

$$DL = 0.02632$$

$$BEC = 0.04057$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1694.58	0.0325	P	3.7
2	☐	0.200					
3	☐	2.000	1.834	3933.95	0.0753	P	5.0
4	☐	50.000	49.074	60994.57	1.1780	P	2.0
5	☐	125.000	124.841	148099.33	2.9466	P	4.5
6	☐	250.000	236.931	289376.17	5.5631	P	2.3
7	☐	500.000	495.246	580622.44	11.5929	P	7.9
8	☐	1000.000	1005.711	1132222.46	23.5086	P	16.9
9	☐			9365.48	0.1816	P	8.1

$$y = 0.0233 * x + 0.0325$$

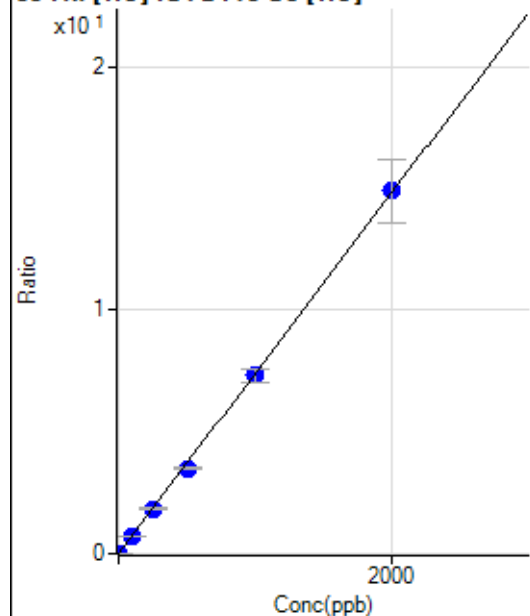
$$R = 0.9999$$

$$DL = 0.1532$$

$$BEC = 1.392$$

Weight: <None>

Min Conc: 0

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

	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0019	P	23.7
2	☐	0.100					
3	☐	1.000	0.904	450.01	0.0086	P	7.4
4	☐	100.000	97.023	37265.28	0.7197	P	1.5
5	☐	250.000	247.001	91943.32	1.8292	P	4.2
6	☐	500.000	471.448	181531.71	3.4897	P	1.8
7	☐	1000.000	988.950	366503.88	7.3181	P	8.0
8	☐	2000.000	2013.187	717107.57	14.8954	P	17.3
9	☐			2921.48	0.0567	P	9.8

$$y = 0.0074 * x + 0.0019$$

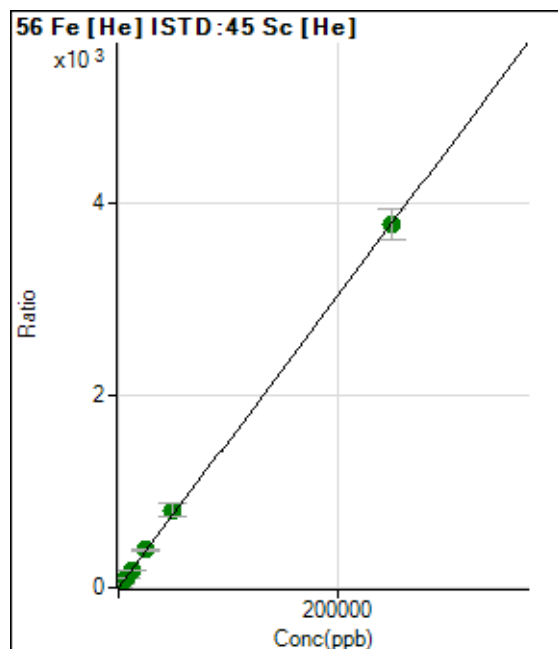
$$R = 0.9999$$

$$DL = 0.1845$$

$$BEC = 0.2594$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	3806.19	0.0730	P	1.1
2	☐	5.000					
3	☐	50.000	49.974	43258.36	0.8281	P	3.9
4	☐	2500.000	2613.704	2048938.08	39.5695	A	0.8
5	☐	6250.000	6563.052	4988681.88	99.2493	A	4.2
6	☐	12500.000	12439.016	9782320.36	188.0429	A	1.4
7	☐	25000.000	25929.501	19627087.01	391.9019	A	8.0
8	☐	50000.000	52918.415	38500920.77	799.7399	A	17.3
9	☐	250000.00	249317.45	194305537.6	3,767.588	A	8.4

$$y = 0.0151 * x + 0.0730$$

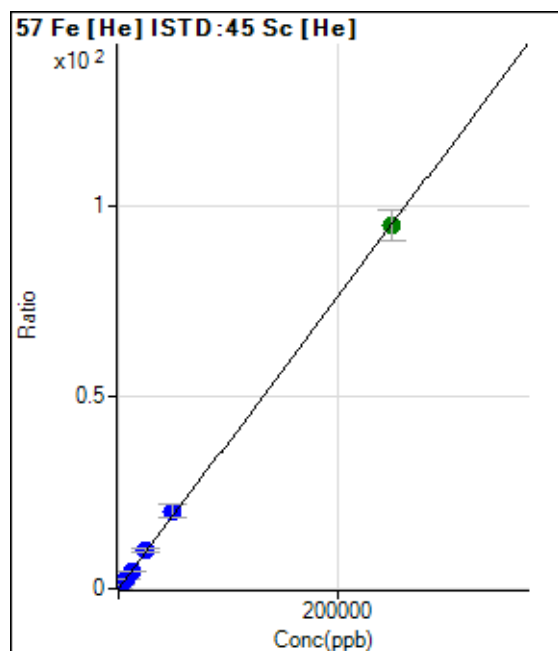
$$R = 0.9999$$

$$DL = 0.1607$$

$$BEC = 4.829$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	144.45	0.0028	P	11.6
2	☐	5.000					
3	☐	50.000	49.281	1122.30	0.0215	P	7.6
4	☐	2500.000	2591.100	51054.95	0.9861	P	1.8
5	☐	6250.000	6496.171	124024.59	2.4680	P	5.0
6	☐	12500.000	12460.484	246144.30	4.7314	P	1.0
7	☐	25000.000	26005.295	494304.66	9.8715	P	8.3
8	☐	50000.000	53096.238	969886.62	20.1522	P	17.6
9	☐	250000.00	249275.13	4878554.04	94.5997	A	8.5

$$y = 3.7949E-004 * x + 0.0028$$

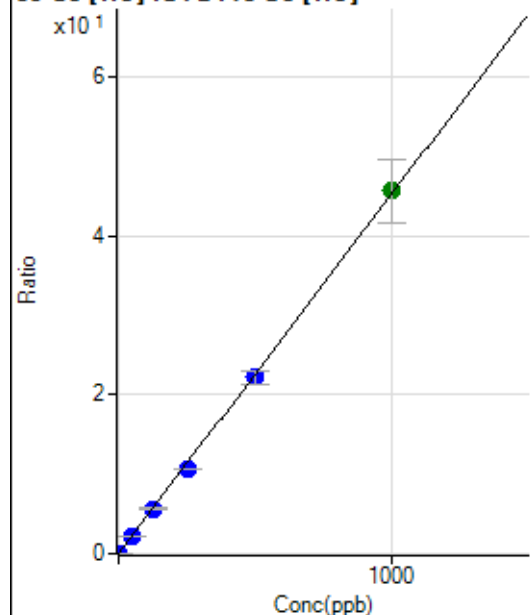
$$R = 0.9999$$

$$DL = 2.536$$

$$BEC = 7.3$$

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	278.90	0.0054	P	15.3
2	☐	0.100					
3	☐	1.000	0.894	2395.81	0.0458	P	2.0
4	☐	50.000	48.552	114172.94	2.2050	P	1.1
5	☐	125.000	124.049	282753.10	5.6254	P	4.2
6	☐	250.000	235.895	556234.72	10.6925	P	1.6
7	☐	500.000	489.609	1110968.95	22.1869	P	8.4
8	☐	1000.000	1008.913	2200895.19	45.7138	A	17.2
9	☐			25312.12	0.4904	P	7.1

$$y = 0.0453 * x + 0.0054$$

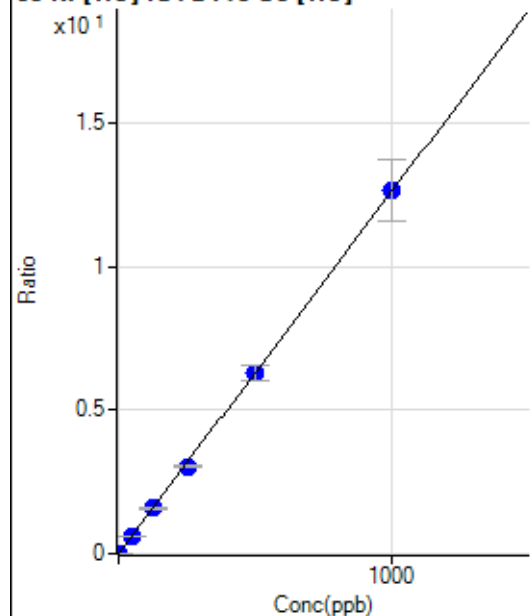
$$R = 0.9998$$

$$DL = 0.05439$$

$$BEC = 0.1182$$

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	107.78	0.0021	P	22.5
2	☐	0.100					
3	☐	1.000	0.937	725.59	0.0139	P	0.1
4	☐	50.000	50.036	32806.58	0.6335	P	0.7
5	☐	125.000	127.226	80810.65	1.6077	P	4.2
6	☐	250.000	240.133	157759.84	3.0326	P	1.5
7	☐	500.000	498.735	315300.60	6.2963	P	8.2
8	☐	1000.000	1002.819	609625.61	12.6580	P	16.9
9	☐			7680.00	0.1489	P	7.8

$$y = 0.0126 * x + 0.0021$$

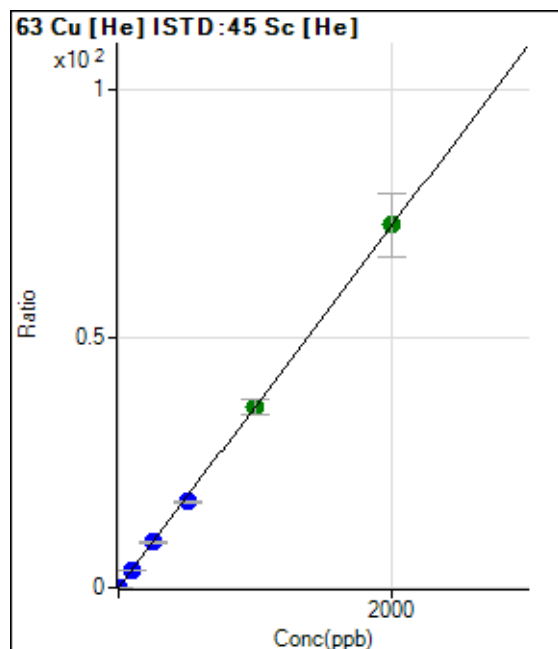
$$R = 0.9999$$

$$DL = 0.1106$$

$$BEC = 0.1636$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	516.69	0.0099	P	8.3
2	☐	0.200					
3	☐	2.000	1.718	3772.81	0.0722	P	1.4
4	☐	100.000	98.006	184480.96	3.5629	P	1.3
5	☐	250.000	250.847	457521.35	9.1037	P	4.7
6	☐	500.000	476.217	898585.65	17.2739	P	1.7
7	☐	1000.000	998.830	1813676.52	36.2198	A	8.3
8	☐	2000.000	2006.525	3502419.81	72.7511	A	17.3
9	☐			4756.46	0.0923	P	8.8

$$y = 0.0363 * x + 0.0099$$

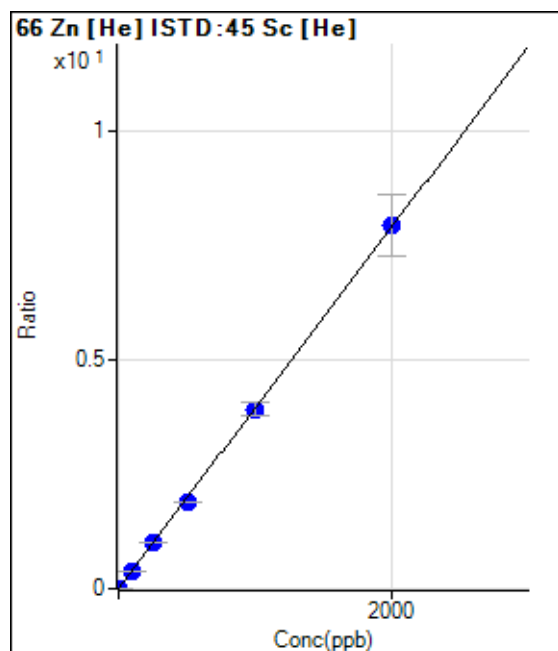
$$R = 0.9999$$

$$DL = 0.06834$$

$$BEC = 0.2732$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0012	P	27.7
2	☐	0.200					
3	☐	2.000	1.845	441.13	0.0084	P	7.2
4	☐	100.000	99.738	20464.18	0.3952	P	0.8
5	☐	250.000	254.405	50589.89	1.0063	P	3.6
6	☐	500.000	479.065	98521.13	1.8939	P	1.7
7	☐	1000.000	994.360	196773.74	3.9298	P	8.4
8	☐	2000.000	2007.517	382030.78	7.9327	P	16.9
9	☐			2820.34	0.0548	P	11.7

$$y = 0.0040 * x + 0.0012$$

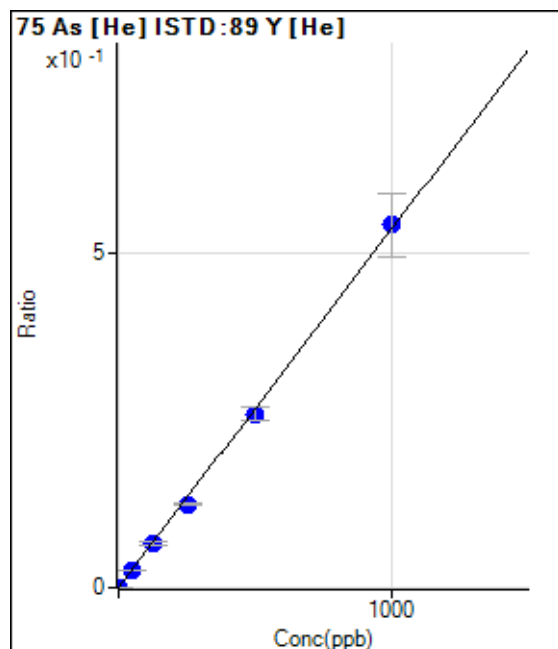
$$R = 0.9999$$

$$DL = 0.2419$$

$$BEC = 0.2913$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.49	0.0000	P	74.5
2	☐	0.100					
3	☐	1.000	0.871	152.47	0.0005	P	9.3
4	☐	50.000	48.046	7794.86	0.0257	P	2.7
5	☐	125.000	122.780	19199.82	0.0657	P	5.8
6	☐	250.000	232.443	38057.82	0.1244	P	2.1
7	☐	500.000	485.073	76103.57	0.2596	P	7.5
8	☐	1000.000	1012.228	150198.35	0.5418	P	17.4
9	☐			210.50	0.0007	P	14.2

$$y = 5.3519\text{E-}004 * x + 3.5324\text{E-}005$$

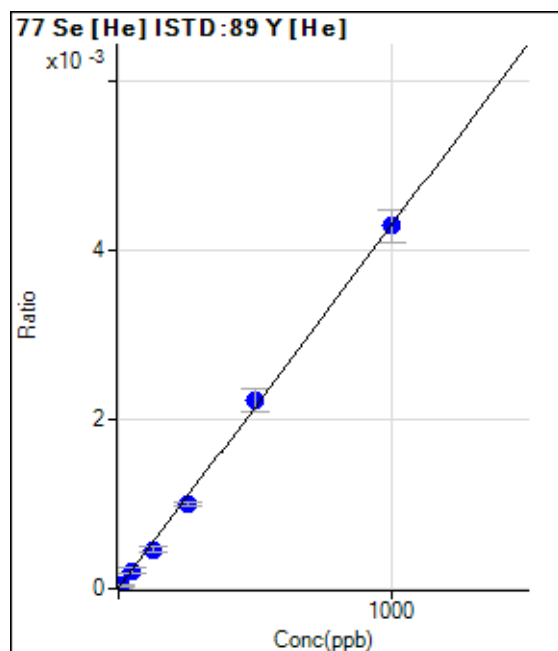
$$R = 0.9997$$

$$DL = 0.1476$$

$$BEC = 0.066$$

Weight: <None>

Min Conc: 0



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1.11	0.0000	P	173.
2	☐	0.500					
3	☐	5.000	7.720	11.11	0.0000	P	36.2
4	☐	50.000	48.677	64.45	0.0002	P	24.9
5	☐	125.000	107.069	135.56	0.0005	P	11.6
6	☐	250.000	232.846	306.68	0.0010	P	3.9
7	☐	500.000	516.906	650.03	0.0022	P	11.9
8	☐	1000.000	998.130	1197.85	0.0043	P	9.3
9	☐			4.44	0.0000	P	109.

$$y = 4.2891\text{E-}006 * x + 3.6472\text{E-}006$$

$$R = 0.9995$$

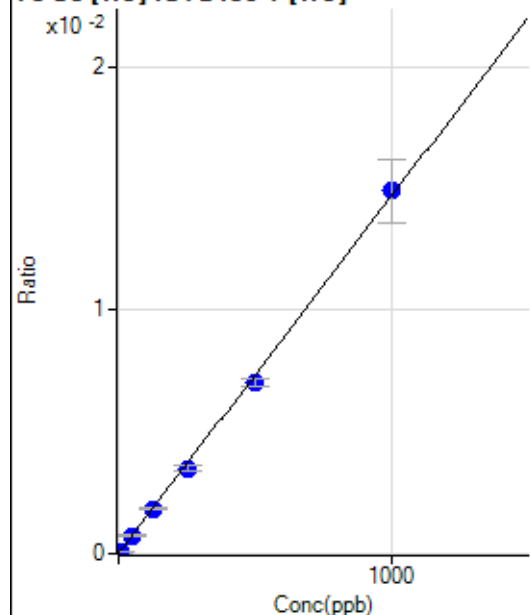
$$DL = 4.419$$

$$BEC = 0.8503$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.32	0.0000	P	64.1
2	☐	0.500					
3	☐	5.000	6.362	32.72	0.0001	P	6.2
4	☐	50.000	48.897	221.61	0.0007	P	8.5
5	☐	125.000	123.999	535.82	0.0018	P	2.5
6	☐	250.000	237.139	1067.96	0.0035	P	5.9
7	☐	500.000	478.028	2062.52	0.0070	P	3.9
8	☐	1000.000	1014.375	4129.05	0.0149	P	17.2
9	☐			6.18	0.0000	P	21.1

$$y = 1.4665E-005 * x + 1.4395E-005$$

$$R = 0.9995$$

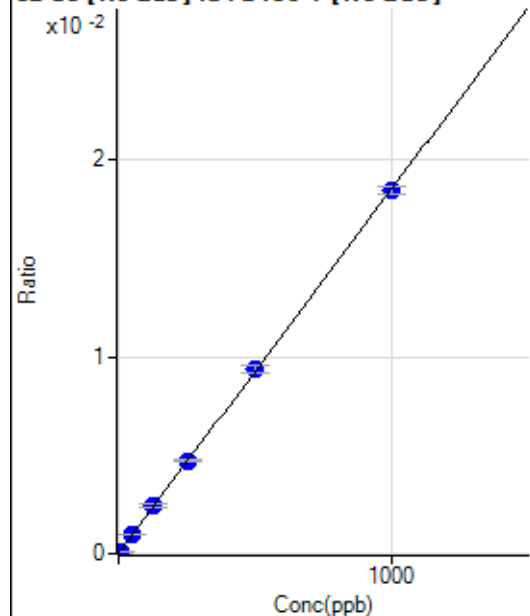
$$DL = 1.888$$

$$BEC = 0.9816$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	122.02	0.0000	P	44.2
2	☐	0.500					
3	☐	5.000	3.603	445.17	0.0001	P	24.7
4	☐	50.000	51.509	4764.61	0.0010	P	6.6
5	☐	125.000	128.848	11923.34	0.0024	P	8.0
6	☐	250.000	254.264	23928.85	0.0047	P	2.9
7	☐	500.000	505.874	47568.58	0.0094	P	3.5
8	☐	1000.000	995.448	92879.59	0.0184	P	2.3
9	☐			134.73	0.0000	P	105.

$$y = 1.8473E-005 * x + 2.4982E-005$$

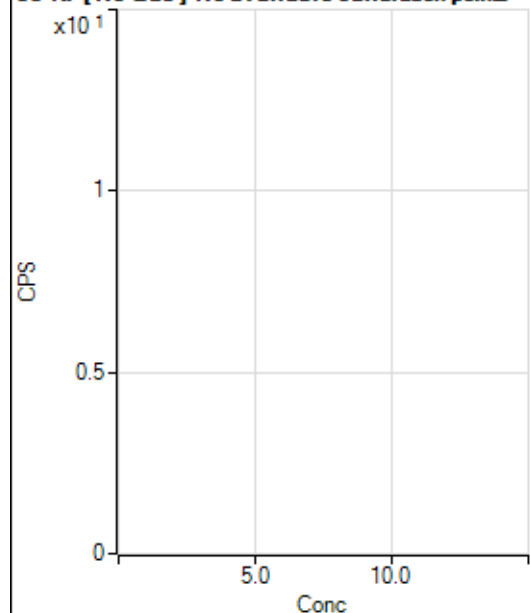
$$R = 1.0000$$

$$DL = 1.792$$

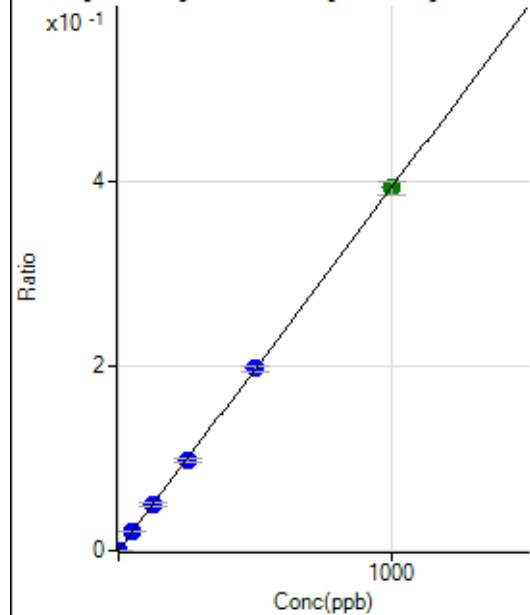
$$BEC = 1.352$$

Weight: <None>

Min Conc: 0

83 Kr [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			805.60		P	8.4
2	☐						
3	☐			876.72		P	9.0
4	☐			893.38		P	5.5
5	☐			820.04		P	2.1
6	☐			837.82		P	10.3
7	☐			876.71		P	12.2
8	☐			892.27		P	6.7
9	☐			853.38		P	11.8

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	1314.01	0.0003	P	13.0
2	☐	0.100					
3	☐	1.000	0.744	2789.31	0.0006	P	5.1
4	☐	50.000	51.731	100681.52	0.0206	P	4.4
5	☐	125.000	126.384	247840.84	0.0500	P	7.1
6	☐	250.000	249.354	498245.27	0.0983	P	3.6
7	☐	500.000	500.971	1001587.47	0.1973	P	3.1
8	☐	1000.000	999.417	1983297.22	0.3933	A	3.8
9	☐			8333.44	0.0017	P	2.7

$$y = 3.9324\text{E-}004 * x + 2.7876\text{E-}004$$

$$R = 1.0000$$

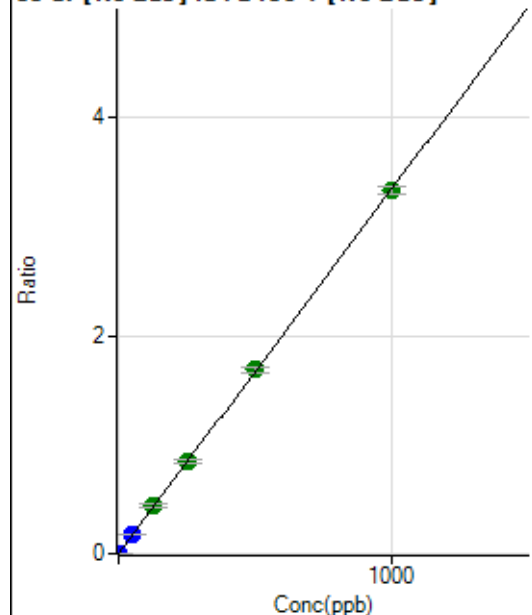
$$DL = 0.2763$$

$$BEC = 0.7089$$

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	97.23	0.0000	P	43.8
2	☐	0.100					
3	☐	1.000	0.801	13151.44	0.0027	P	2.3
4	☐	50.000	52.382	854600.99	0.1750	P	4.3
5	☐	125.000	130.041	2154185.85	0.4345	A	7.7
6	☐	250.000	253.722	4295897.14	0.8477	A	2.9
7	☐	500.000	505.205	8568898.46	1.6879	A	3.5
8	☐	1000.000	995.718	16780476.59	3.3268	A	2.3
9	☐			61676.80	0.0123	P	1.0

$$y = 0.0033 * x + 1.9866E-005$$

$$R = 1.0000$$

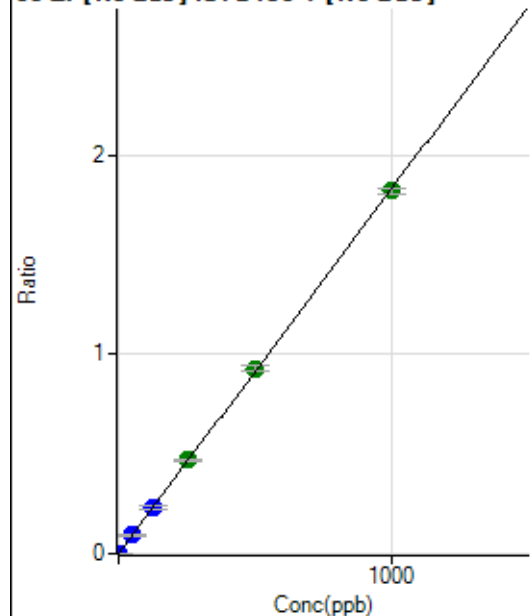
$$DL = 0.00781$$

$$BEC = 0.005946$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	263.91	0.0001	P	19.9
2	☐	0.100					
3	☐	1.000	0.889	8197.29	0.0017	P	1.6
4	☐	50.000	51.284	457927.81	0.0938	P	5.2
5	☐	125.000	127.201	1153574.86	0.2326	P	7.0
6	☐	250.000	256.067	2372892.31	0.4682	A	3.0
7	☐	500.000	506.903	4705159.70	0.9268	A	3.3
8	☐	1000.000	994.692	9173745.08	1.8186	A	1.9
9	☐			2258.63	0.0005	P	9.5

$$y = 0.0018 * x + 5.5744E-005$$

$$R = 0.9999$$

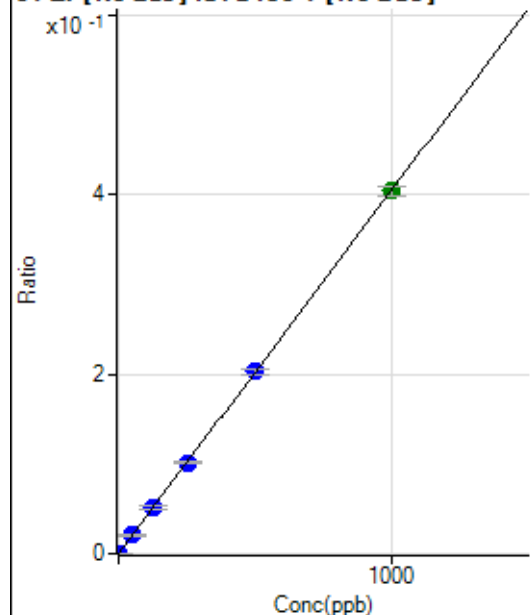
$$DL = 0.01825$$

$$BEC = 0.03049$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	63.89	0.0000	P	42.2
2	☐	0.100					
3	☐	1.000	0.852	1747.43	0.0004	P	3.3
4	☐	50.000	51.106	100931.55	0.0207	P	5.9
5	☐	125.000	127.102	255050.43	0.0514	P	6.4
6	☐	250.000	249.798	512031.86	0.1010	P	2.7
7	☐	500.000	502.260	1031295.95	0.2031	P	3.2
8	☐	1000.000	998.602	2036902.91	0.4039	A	2.9
9	☐			461.14	0.0001	P	9.9

$$y = 4.0442\text{E-}004 * x + 1.3397\text{E-}005$$

$$R = 1.0000$$

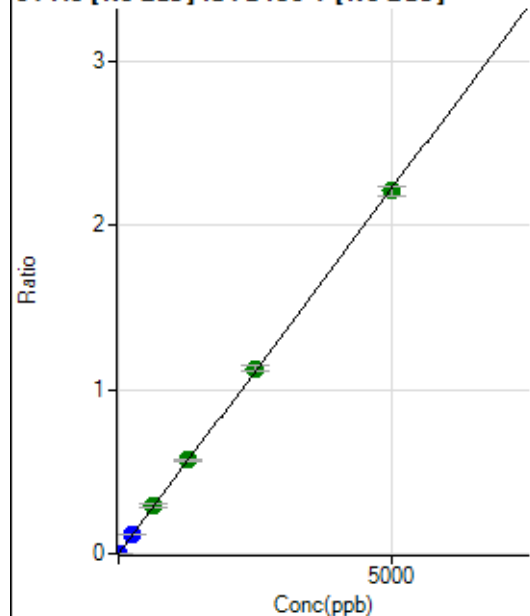
$$DL = 0.04197$$

$$BEC = 0.03313$$

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	186.12	0.0000	P	10.6
2	☐	0.500					
3	☐	5.000	4.695	10376.61	0.0021	P	4.3
4	☐	250.000	261.131	567321.62	0.1162	P	5.3
5	☐	625.000	652.393	1440240.88	0.2903	A	6.1
6	☐	1250.000	1278.155	2882025.78	0.5687	A	2.9
7	☐	2500.000	2533.984	5724139.15	1.1275	A	3.1
8	☐	5000.000	4971.989	11157442.52	2.2122	A	2.7
9	☐			3942.44	0.0008	P	7.2

$$y = 4.4492\text{E-}004 * x + 3.9016\text{E-}005$$

$$R = 0.9999$$

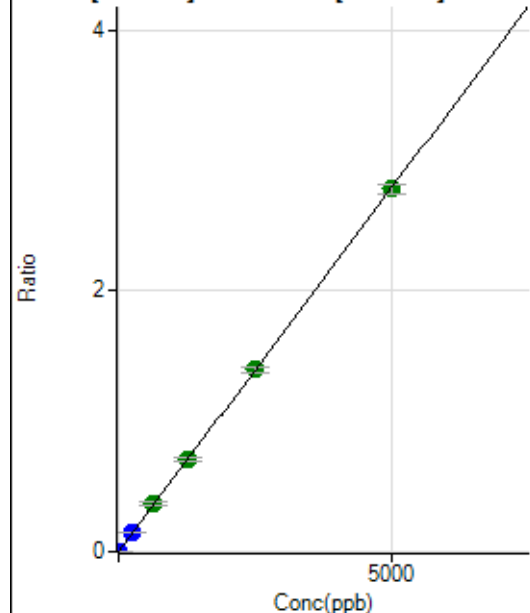
$$DL = 0.02783$$

$$BEC = 0.08769$$

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	91.67	0.0000	P	47.8
2	☐	0.500					
3	☐	5.000	4.633	12689.84	0.0026	P	4.5
4	☐	250.000	259.736	706728.93	0.1448	P	4.8
5	☐	625.000	651.152	1798811.37	0.3629	A	8.2
6	☐	1250.000	1268.995	3583932.72	0.7072	A	2.7
7	☐	2500.000	2505.139	7088425.76	1.3961	A	2.9
8	☐	5000.000	4988.926	14022241.63	2.7802	A	2.8
9	☐			5451.31	0.0011	P	3.9

$$y = 5.5728\text{E-}004 * x + 1.9455\text{E-}005$$

$$R = 1.0000$$

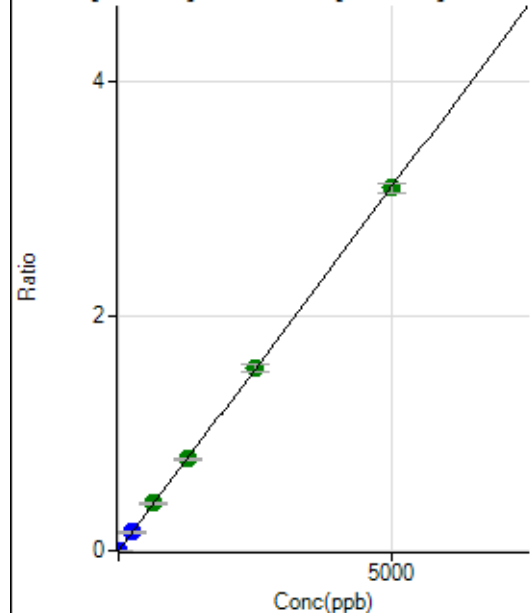
$$DL = 0.05011$$

$$BEC = 0.03491$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	133.34	0.0000	P	20.8
2	☐	0.500					
3	☐	5.000	4.602	14055.05	0.0029	P	3.0
4	☐	250.000	255.299	772949.08	0.1584	P	5.5
5	☐	625.000	651.824	2005683.34	0.4043	A	6.3
6	☐	1250.000	1260.764	3962679.08	0.7820	A	2.9
7	☐	2500.000	2508.179	7897077.26	1.5556	A	3.6
8	☐	5000.000	4989.602	15608103.65	3.0946	A	2.7
9	☐			7191.11	0.0014	P	8.7

$$y = 6.2021\text{E-}004 * x + 2.8059\text{E-}005$$

$$R = 1.0000$$

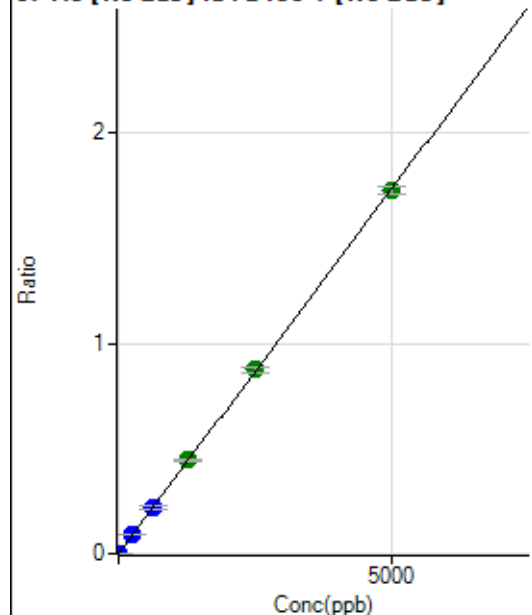
$$DL = 0.02821$$

$$BEC = 0.04524$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.89	0.0000	P	29.8
2	☐	0.500					
3	☐	5.000	4.784	8158.37	0.0017	P	4.9
4	☐	250.000	258.396	437481.06	0.0896	P	5.8
5	☐	625.000	637.959	1097523.65	0.2213	P	6.9
6	☐	1250.000	1282.539	2254785.90	0.4449	A	2.1
7	☐	2500.000	2527.937	4451503.75	0.8769	A	3.4
8	☐	5000.000	4975.858	8705986.30	1.7260	A	2.1
9	☐			3428.37	0.0007	P	5.5

$$y = 3.4686\text{E-}004 * x + 1.3718\text{E-}005$$

$$R = 1.0000$$

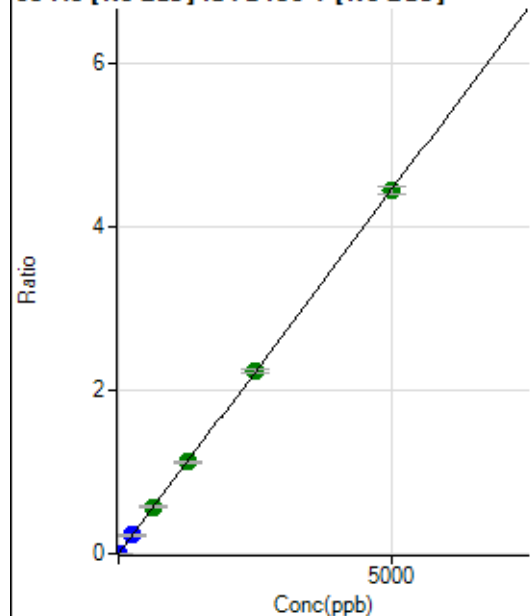
$$DL = 0.03539$$

$$BEC = 0.03955$$

Weight: <None>

Min Conc: 0

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



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	155.57	0.0000	P	11.2
2	☐	0.500					
3	☐	5.000	4.776	20880.84	0.0043	P	3.1
4	☐	250.000	258.618	1122963.62	0.2301	P	5.8
5	☐	625.000	646.895	2853505.58	0.5755	A	7.6
6	☐	1250.000	1263.170	5695245.01	1.1238	A	2.5
7	☐	2500.000	2509.327	11334536.89	2.2324	A	2.7
8	☐	5000.000	4988.877	22387244.42	4.4382	A	2.0
9	☐			8394.63	0.0017	P	2.6

$$y = 8.8961\text{E-}004 * x + 3.2534\text{E-}005$$

$$R = 1.0000$$

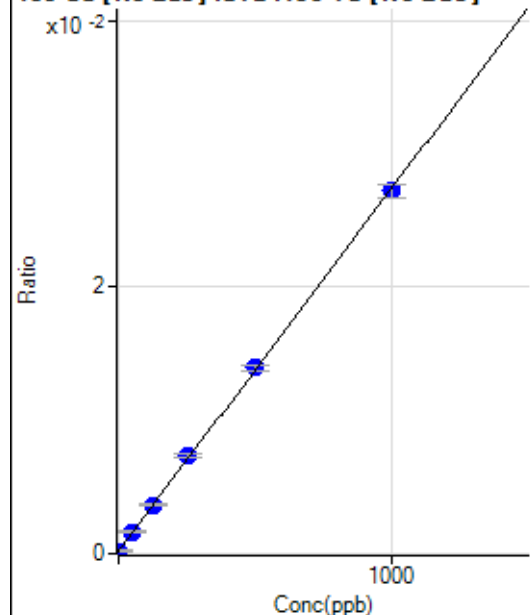
$$DL = 0.01231$$

$$BEC = 0.03657$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	930.63	0.0002	P	14.1
2	☐	0.100					
3	☐	1.000	0.660	1044.54	0.0002	P	12.4
4	☐	50.000	53.604	8102.83	0.0017	P	5.2
5	☐	125.000	127.111	18583.00	0.0037	P	6.4
6	☐	250.000	261.486	37570.19	0.0073	P	3.4
7	☐	500.000	505.934	71934.28	0.0140	P	3.1
8	☐	1000.000	993.718	139906.12	0.0272	P	3.6
9	☐			994.53	0.0002	P	11.8

$$y = 2.7217\text{E-}005 * x + 1.9753\text{E-}004$$

$$R = 0.9999$$

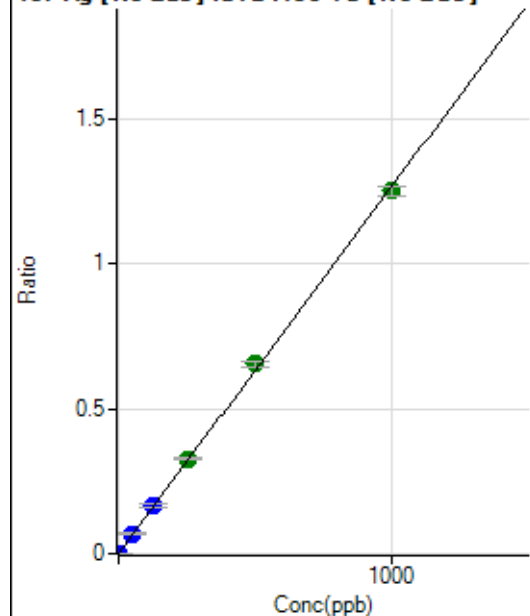
$$DL = 3.072$$

$$BEC = 7.258$$

Weight: <None>

Min Conc: 0

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



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	158.34	0.0000	P	32.4
2	☐	0.100					
3	☐	1.000	1.026	6454.60	0.0013	P	2.9
4	☐	50.000	54.036	334434.23	0.0684	P	5.4
5	☐	125.000	129.830	834575.98	0.1643	P	6.3
6	☐	250.000	258.483	1679698.47	0.3270	A	2.7
7	☐	500.000	516.580	3365100.38	0.6534	A	3.3
8	☐	1000.000	988.784	6423215.08	1.2507	A	3.0
9	☐			661.16	0.0001	P	5.9

$$y = 0.0013 * x + 3.4349\text{E-}005$$

$$R = 0.9998$$

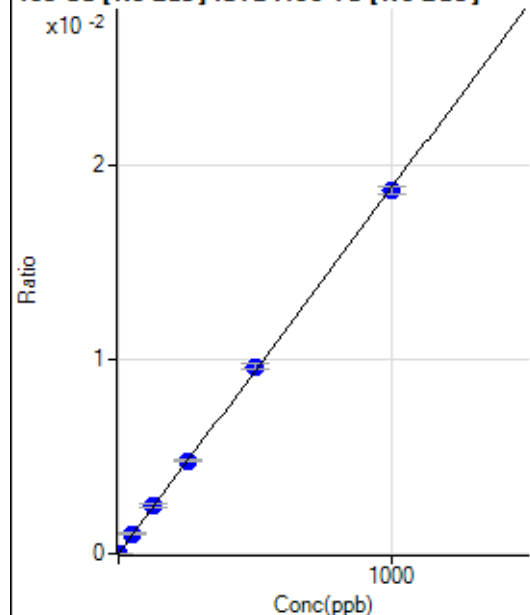
$$DL = 0.02639$$

$$BEC = 0.02716$$

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	16.67	0.0000	P	29.4
2	☐	0.100					
3	☐	1.000	0.947	104.17	0.0000	P	17.1
4	☐	50.000	54.566	5048.29	0.0010	P	9.3
5	☐	125.000	132.376	12708.98	0.0025	P	6.7
6	☐	250.000	254.594	24696.55	0.0048	P	3.6
7	☐	500.000	512.295	49805.87	0.0097	P	3.0
8	☐	1000.000	991.554	96121.74	0.0187	P	2.3
9	☐			16.67	0.0000	P	22.8

$$y = 1.8871\text{E-}005 * x + 3.6096\text{E-}006$$

$$R = 0.9999$$

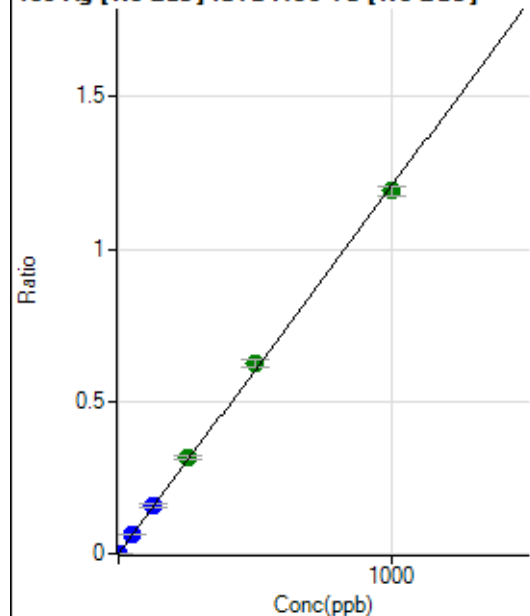
$$DL = 0.1687$$

$$BEC = 0.1913$$

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	108.34	0.0000	P	18.4
2	☐	0.100					
3	☐	1.000	1.028	6118.32	0.0013	P	2.3
4	☐	50.000	53.466	315683.79	0.0645	P	5.1
5	☐	125.000	130.186	798358.61	0.1571	P	6.3
6	☐	250.000	261.452	1620522.95	0.3155	A	3.8
7	☐	500.000	517.967	3218299.03	0.6251	A	4.3
8	☐	1000.000	987.332	6119301.91	1.1915	A	2.7
9	☐			730.61	0.0001	P	6.2

$$y = 0.0012 * x + 2.2840\text{E-}005$$

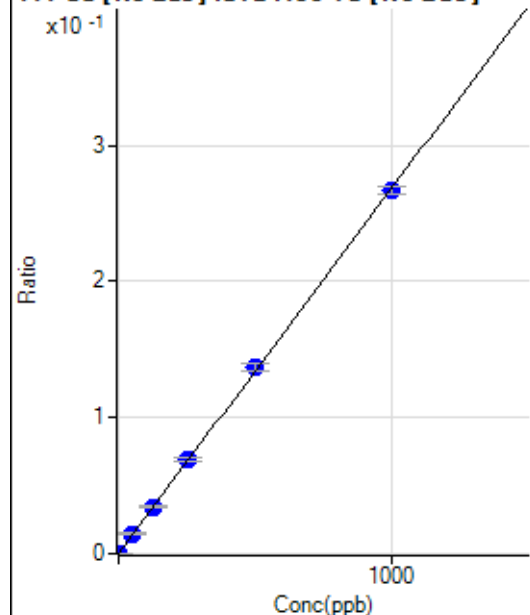
$$R = 0.9997$$

$$DL = 0.01044$$

$$BEC = 0.01893$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	667.55	0.0001	P	12.3
2	☐	0.100					
3	☐	1.000	0.924	1887.51	0.0004	P	8.5
4	☐	50.000	53.756	71146.14	0.0145	P	5.0
5	☐	125.000	127.744	174689.25	0.0344	P	5.4
6	☐	250.000	256.326	353525.05	0.0688	P	3.1
7	☐	500.000	508.637	702478.65	0.1364	P	4.1
8	☐	1000.000	993.569	1368130.35	0.2664	P	2.2
9	☐			753.96	0.0002	P	10.0

$$y = 2.6795E-004 * x + 1.4194E-004$$

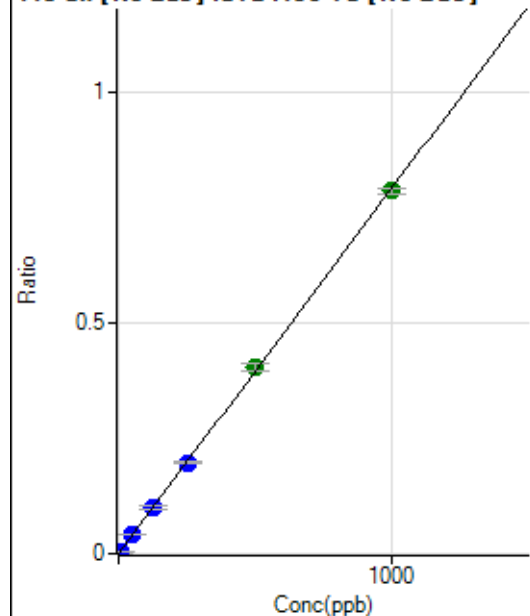
$$R = 0.9999$$

$$DL = 0.1948$$

$$BEC = 0.5297$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	☐	0.000	0.000	283.35	0.0001	P	30.0
2	☐	0.500					
3	☐	5.000	4.965	19331.44	0.0040	P	3.0
4	☐	50.000	51.683	200356.76	0.0410	P	5.3
5	☐	125.000	126.166	507634.09	0.0999	P	6.4
6	☐	250.000	250.169	1017157.67	0.1981	P	3.9
7	☐	500.000	511.637	2085225.61	0.4050	A	4.1
8	☐	1000.000	993.909	4040714.02	0.7867	A	1.8
9	☐			2183.61	0.0004	P	4.3

$$y = 7.9142E-004 * x + 6.1752E-005$$

$$R = 0.9999$$

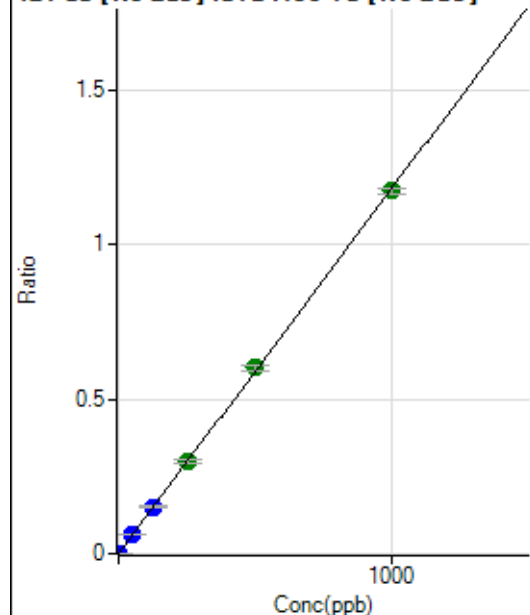
$$DL = 0.07022$$

$$BEC = 0.07803$$

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	133.34	0.0000	P	28.0
2	☐	0.200					
3	☐	2.000	1.853	10729.81	0.0022	P	6.4
4	☐	50.000	52.278	301997.51	0.0618	P	5.5
5	☐	125.000	127.681	766434.03	0.1508	P	5.1
6	☐	250.000	253.510	1537639.78	0.2993	A	3.1
7	☐	500.000	508.631	3092720.86	0.6006	A	3.4
8	☐	1000.000	994.358	6030493.28	1.1740	A	1.8
9	☐			7405.15	0.0015	P	3.4

$$y = 0.0012 * x + 2.8650E-005$$

$$R = 0.9999$$

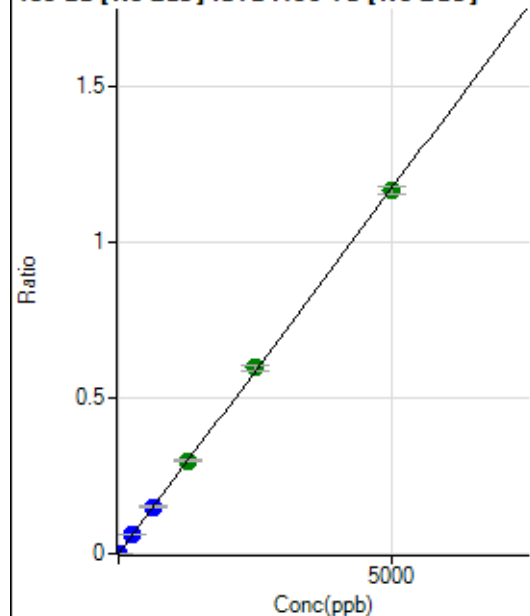
$$DL = 0.02041$$

$$BEC = 0.02427$$

Weight: <None>

Min Conc: 0

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



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	94.45	0.0000	P	43.7
2	☐	1.000					
3	☐	10.000	9.982	11441.56	0.0024	P	1.5
4	☐	250.000	260.426	298988.54	0.0611	P	4.4
5	☐	625.000	638.116	761101.46	0.1497	P	5.0
6	☐	1250.000	1276.127	1538242.48	0.2994	A	2.3
7	☐	2500.000	2542.939	3072449.33	0.5966	A	3.3
8	☐	5000.000	4969.838	5988862.20	1.1660	A	2.1
9	☐			644.49	0.0001	P	19.4

$$y = 2.3461E-004 * x + 1.9495E-005$$

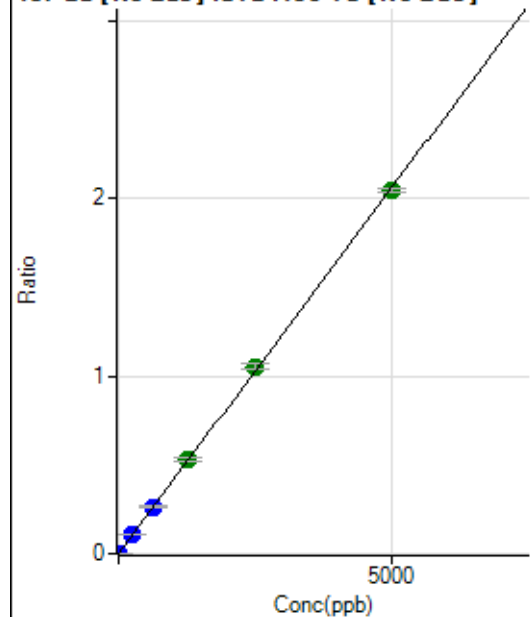
$$R = 0.9999$$

$$DL = 0.1089$$

$$BEC = 0.0831$$

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	108.34	0.0000	P	40.1
2	☐	1.000					
3	☐	10.000	9.838	19734.98	0.0041	P	4.1
4	☐	250.000	260.897	525453.27	0.1074	P	4.3
5	☐	625.000	636.440	1331789.95	0.2620	P	4.9
6	☐	1250.000	1288.469	2724693.27	0.5304	A	2.3
7	☐	2500.000	2554.012	5414146.95	1.0512	A	2.9
8	☐	5000.000	4961.402	10490393.11	2.0421	A	1.1
9	☐			936.19	0.0002	P	9.1

$$y = 4.1160\text{E-}004 * x + 2.3730\text{E-}005$$

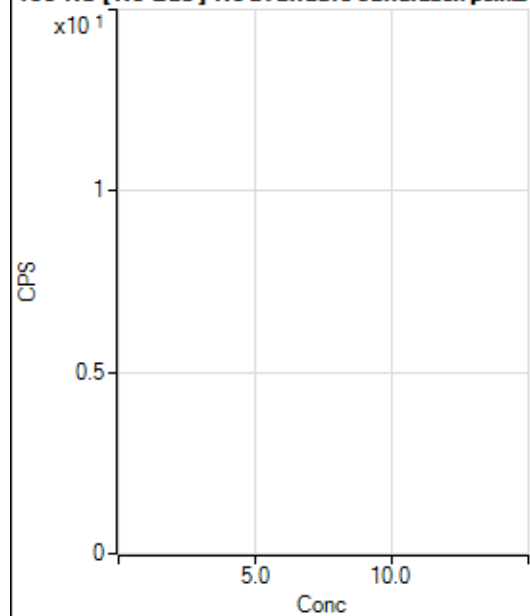
$$R = 0.9999$$

$$DL = 0.06943$$

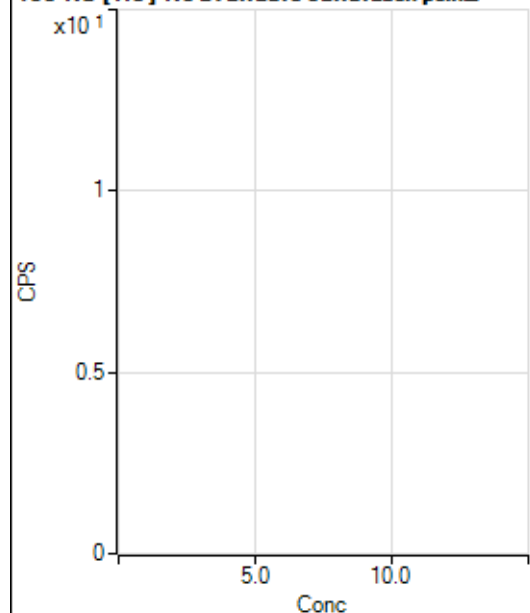
$$BEC = 0.05765$$

Weight: <None>

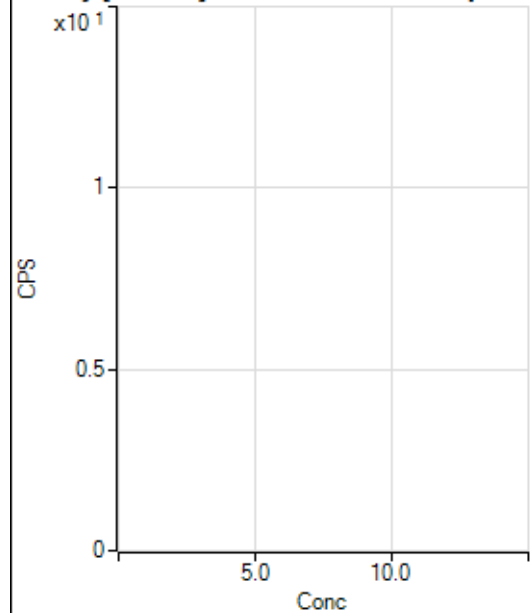
Min Conc: 0

150 Nd [No Gas] No available calibration points

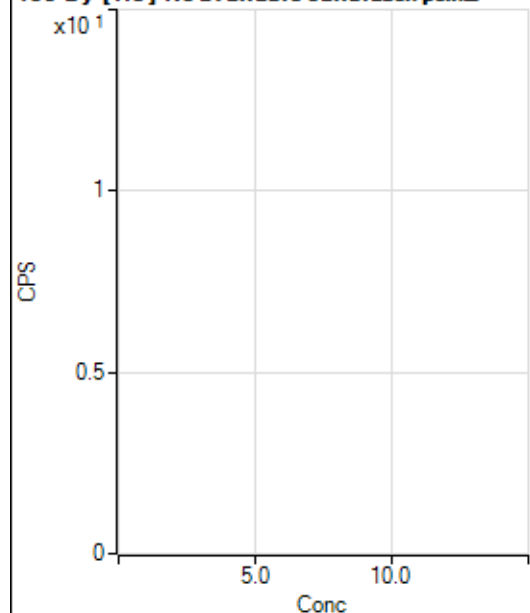
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			8.89		P	86.6
2	☐						
3	☐			20.00		P	88.2
4	☐			17.78		P	43.3
5	☐			42.22		P	36.5
6	☐			66.67		P	43.6
7	☐			97.78		P	17.2
8	☐			193.34		P	24.1
9	☐			86.67		P	7.7

150 Nd [He] No available calibration points

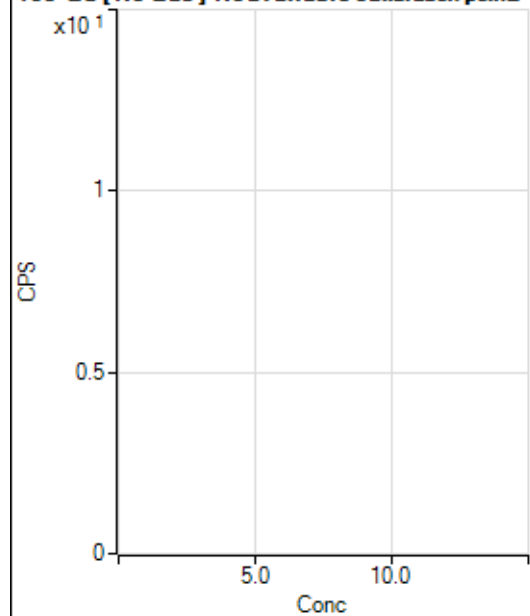
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			1.11		P	173.
2	☐						
3	☐			0.00		P	
4	☐			1.11		P	173.
5	☐			1.11		P	173.
6	☐			1.11		P	173.
7	☐			6.67		P	100.
8	☐			4.44		P	114.
9	☐			16.67		P	72.1

156 Dy [No Gas] No available calibration points

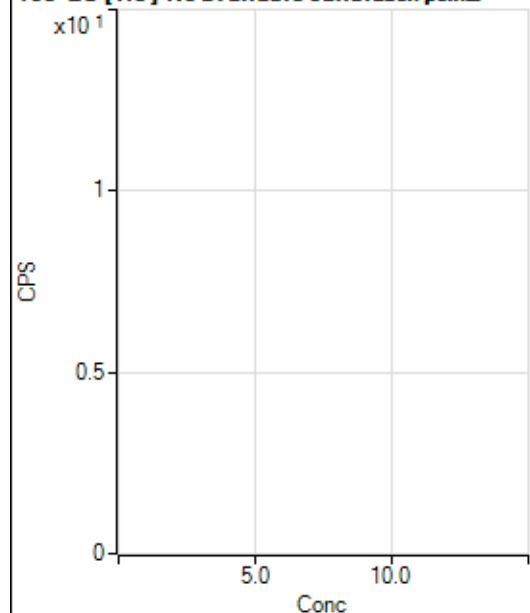
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			11.11		P	114.
2	☐						
3	☐			13.89		P	69.3
4	☐			27.78		P	17.3
5	☐			44.44		P	109.
6	☐			30.55		P	68.6
7	☐			38.89		P	65.5
8	☐			41.67		P	20.0
9	☐			27.78		P	34.6

156 Dy [He] No available calibration points

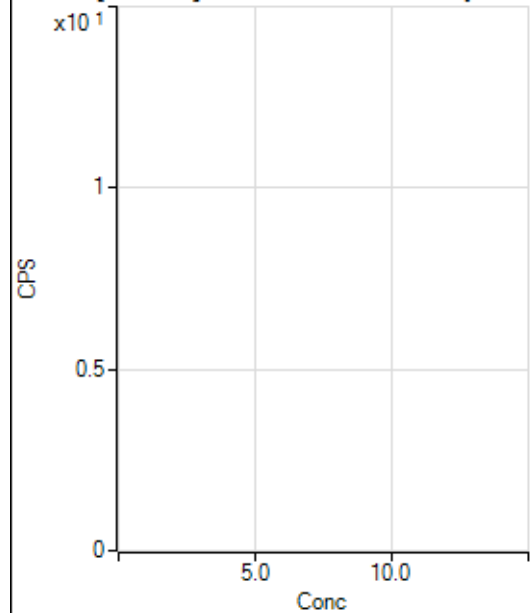
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			0.00		P	
2	☐						
3	☐			2.22		P	86.6
4	☐			0.00		P	
5	☐			2.22		P	86.6
6	☐			1.11		P	173.
7	☐			4.44		P	114.
8	☐			3.33		P	100.
9	☐			10.00		P	120.

160 Gd [No Gas] Noavailable calibration poin_

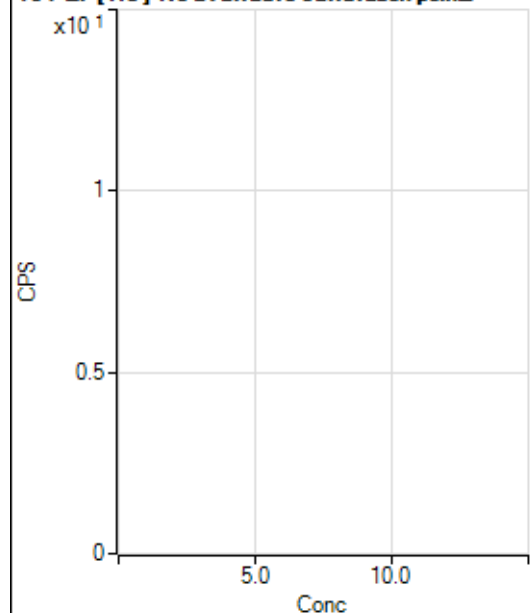
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			33.33		P	75.0
2	☐						
3	☐			44.44		P	21.7
4	☐			41.67		P	20.0
5	☐			41.67		P	0.0
6	☐			30.56		P	103.
7	☐			36.11		P	35.3
8	☐			41.67		P	20.0
9	☐			72.23		P	59.2

160 Gd [He] No available calibration points

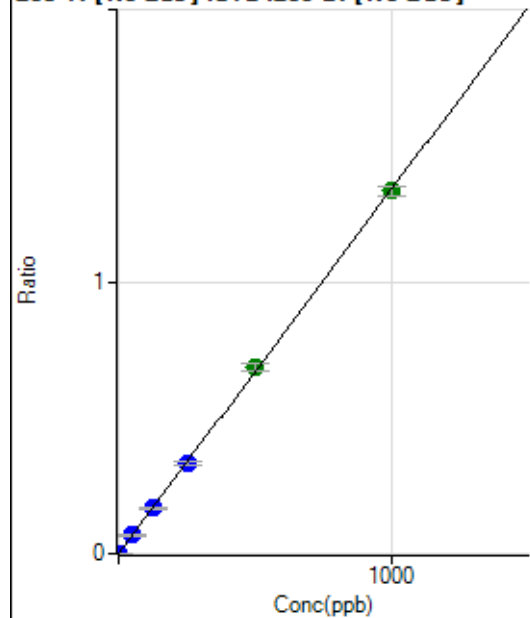
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			10.00		P	0.0
2	☐						
3	☐			8.89		P	43.3
4	☐			8.89		P	57.3
5	☐			10.00		P	88.2
6	☐			5.55		P	69.3
7	☐			12.22		P	68.7
8	☐			10.00		P	33.3
9	☐			20.00		P	44.1

164 Er [No Gas] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			47.22		P	53.9
2	☐						
3	☐			25.00		P	57.7
4	☐			25.00		P	57.7
5	☐			47.22		P	10.2
6	☐			22.22		P	114.
7	☐			36.11		P	87.4
8	☐			22.23		P	43.3
9	☐			38.89		P	61.9

164 Er [He] No available calibration points

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐			5.55		P	124.
2	☐						
3	☐			4.44		P	114.
4	☐			6.67		P	50.0
5	☐			7.78		P	65.5
6	☐			12.22		P	15.7
7	☐			6.66		P	86.6
8	☐			10.00		P	0.0
9	☐			4.44		P	173.

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	97.23	0.0000	P	35.5
2	☐	0.100					
3	☐	1.000	0.862	3236.67	0.0012	P	10.4
4	☐	50.000	50.819	186947.75	0.0682	P	6.0
5	☐	125.000	124.214	470230.85	0.1666	P	5.8
6	☐	250.000	248.044	953567.54	0.3326	P	3.0
7	☐	500.000	509.780	1958500.19	0.6834	A	4.3
8	☐	1000.000	995.657	3769036.37	1.3348	A	2.6
9	☐			380.58	0.0001	P	20.6

$$y = 0.0013 * x + 3.6746E-005$$

$$R = 0.9999$$

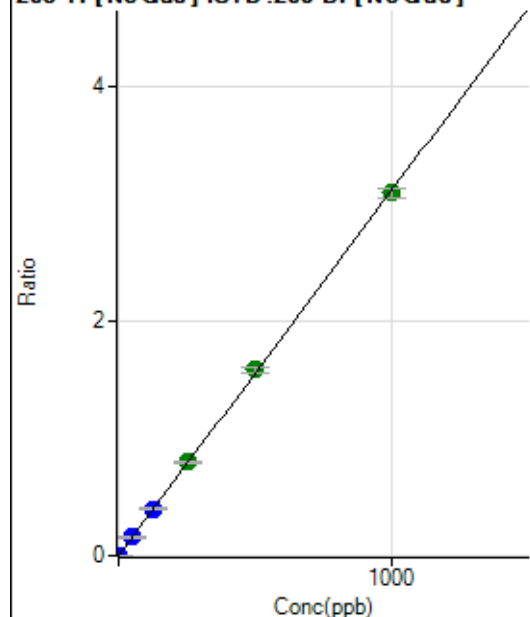
$$DL = 0.02917$$

$$BEC = 0.02741$$

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	197.23	0.0001	P	40.6
2	☐	0.100					
3	☐	1.000	0.913	7930.66	0.0029	P	5.4
4	☐	50.000	51.460	439348.50	0.1602	P	5.6
5	☐	125.000	127.776	1122480.17	0.3976	P	5.9
6	☐	250.000	255.487	2279333.30	0.7949	A	3.1
7	☐	500.000	508.654	4535840.47	1.5825	A	3.5
8	☐	1000.000	993.881	8730629.97	3.0921	A	3.0
9	☐			905.64	0.0003	P	13.3

$$y = 0.0031 * x + 7.6243E-005$$

$$R = 0.9999$$

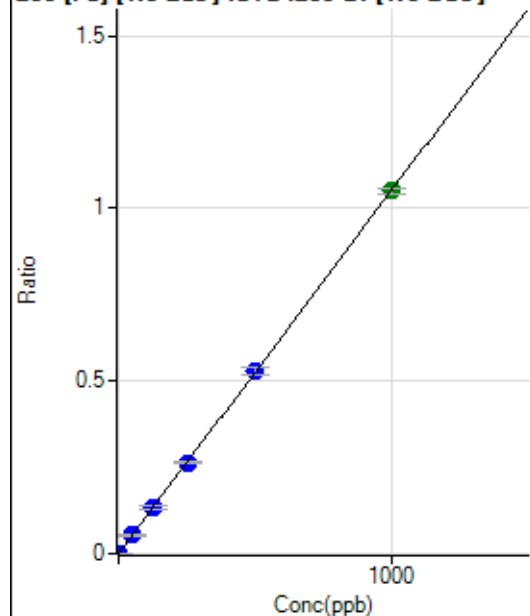
$$DL = 0.02984$$

$$BEC = 0.02451$$

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	375.95	0.0001	P	10.4
2	☐	0.100					
3	☐	1.000	0.911	2987.48	0.0011	P	3.6
4	☐	50.000	51.140	147838.33	0.0539	P	5.6
5	☐	125.000	126.929	377096.46	0.1336	P	5.7
6	☐	250.000	250.249	754711.75	0.2632	P	2.7
7	☐	500.000	501.330	1510645.42	0.5271	P	4.0
8	☐	1000.000	998.974	2965813.20	1.0502	A	1.9
9	☐			4730.65	0.0018	P	2.3

$$y = 0.0011 * x + 1.4140E-004$$

$$R = 1.0000$$

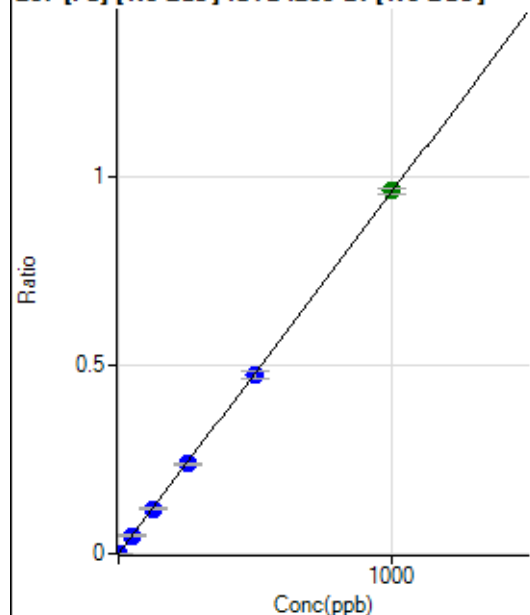
$$DL = 0.04207$$

$$BEC = 0.1345$$

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	433.36	0.0002	P	4.0
2	☐	0.100					
3	☐	1.000	0.830	2611.47	0.0010	P	3.0
4	☐	50.000	50.249	132713.89	0.0484	P	5.6
5	☐	125.000	124.149	336855.65	0.1193	P	5.4
6	☐	250.000	248.094	683124.10	0.2382	P	2.9
7	☐	500.000	493.468	1357607.69	0.4737	P	3.9
8	☐	1000.000	1003.837	2720791.90	0.9634	A	1.9
9	☐			4134.14	0.0016	P	5.0

$$y = 9.5959\text{E-}004 * x + 1.6416\text{E-}004$$

$$R = 1.0000$$

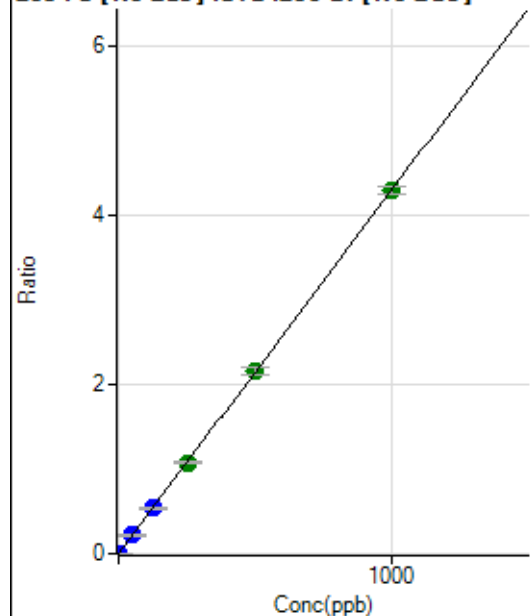
$$DL = 0.02031$$

$$BEC = 0.1711$$

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	1583.43	0.0006	P	2.3
2	☐	0.100					
3	☐	1.000	0.895	12082.32	0.0044	P	2.9
4	☐	50.000	50.854	601093.21	0.2191	P	5.1
5	☐	125.000	125.455	1523522.53	0.5396	P	5.9
6	☐	250.000	250.649	3090079.92	1.0776	A	2.5
7	☐	500.000	502.707	6192707.89	2.1606	A	3.5
8	☐	1000.000	998.385	12115689.74	4.2904	A	2.1
9	☐			18692.97	0.0071	P	2.2

$$y = 0.0043 * x + 5.9905\text{E-}004$$

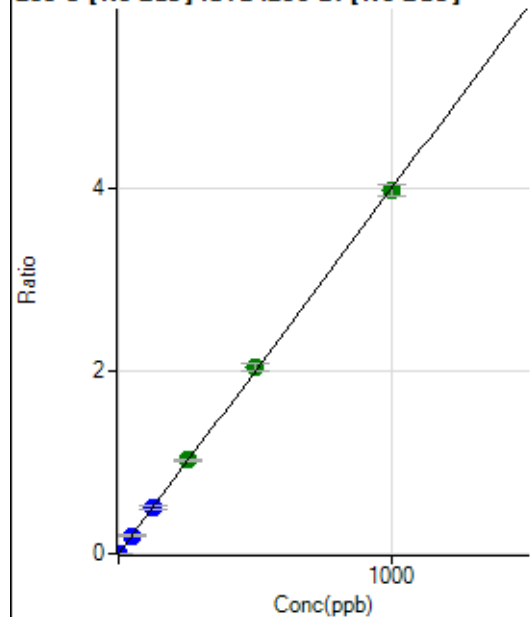
$$R = 1.0000$$

$$DL = 0.009677$$

$$BEC = 0.1394$$

Weight: <None>

Min Conc: 0

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

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	0.000	0.000	361.13	0.0001	P	28.1
2	☐	0.100					
3	☐	1.000	0.880	9912.71	0.0036	P	3.4
4	☐	50.000	49.826	545474.67	0.1988	P	4.9
5	☐	125.000	125.018	1407407.39	0.4986	P	6.6
6	☐	250.000	255.838	2925609.59	1.0203	A	2.9
7	☐	500.000	509.699	5824668.62	2.0325	A	4.2
8	☐	1000.000	993.698	11187406.15	3.9625	A	3.3
9	☐			269.46	0.0001	P	18.1

$$y = 0.0040 * x + 1.3797E-004$$

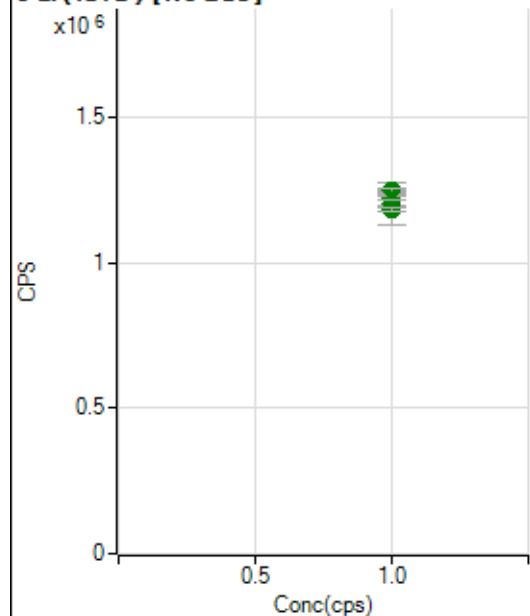
$$R = 0.9999$$

$$DL = 0.02916$$

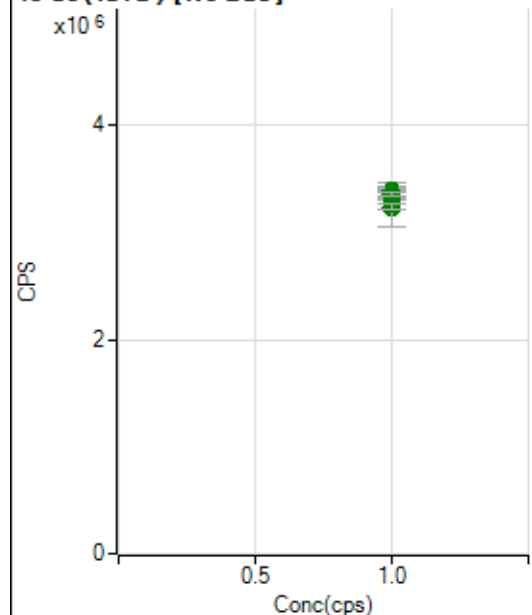
$$BEC = 0.0346$$

Weight: <None>

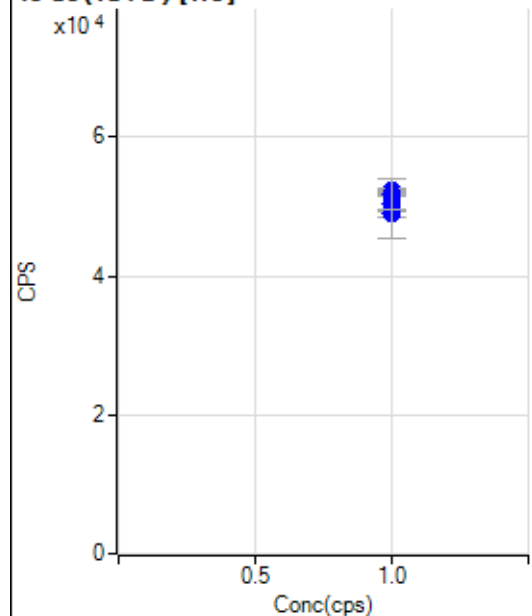
Min Conc: 0

6 Li (ISTD) [No Gas]

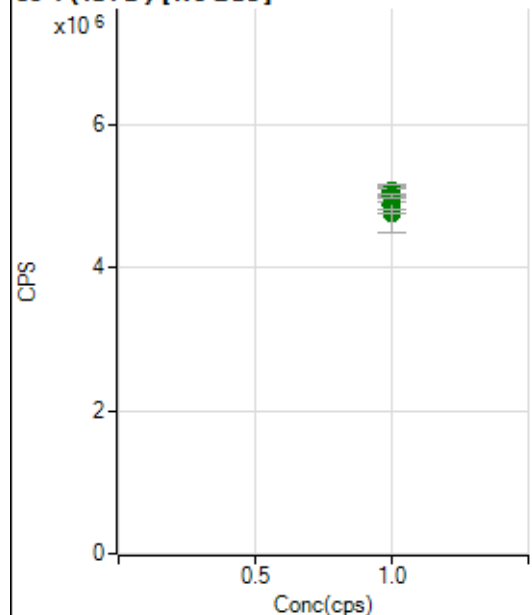
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1184634.07		A	8.8
2	☐	1.000					
3	☐	1.000		1232738.72		A	1.9
4	☐	1.000		1220935.60		A	4.5
5	☐	1.000		1248472.20		A	4.7
6	☐	1.000		1247691.08		A	1.8
7	☐	1.000		1214707.22		A	2.7
8	☐	1.000		1205160.14		A	2.4
9	☐	1.000		1184745.04		A	1.2

45 Sc (ISTD) [No Gas]

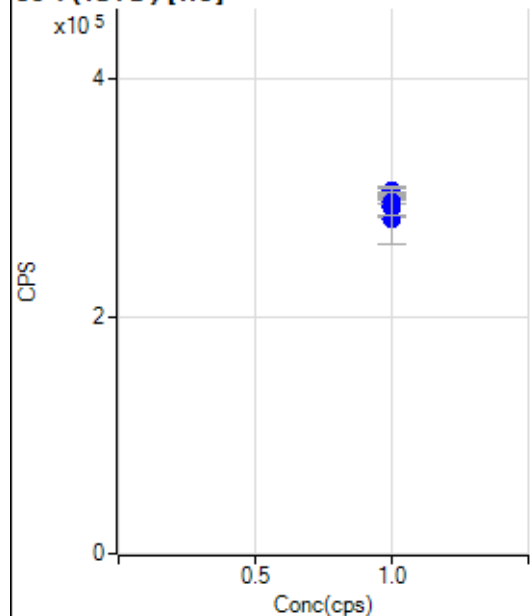
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		3225450.23		A	10.9
2	☐	1.000					
3	☐	1.000		3341586.40		A	1.9
4	☐	1.000		3271289.77		A	3.8
5	☐	1.000		3367092.74		A	6.0
6	☐	1.000		3389077.18		A	2.6
7	☐	1.000		3368395.19		A	3.0
8	☐	1.000		3375864.03		A	2.3
9	☐	1.000		3359545.28		A	0.9

45 Sc (ISTD) [He]

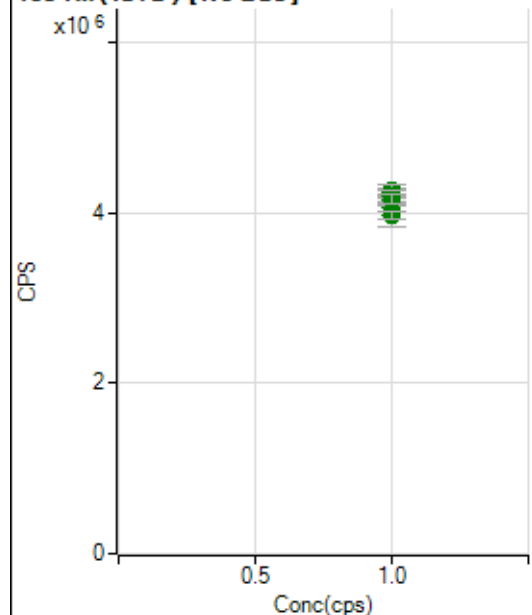
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		52151.90		P	1.1
2	☐	1.000					
3	☐	1.000		52258.17		P	1.8
4	☐	1.000		51783.88		P	1.2
5	☐	1.000		50325.65		P	4.4
6	☐	1.000		52029.34		P	1.6
7	☐	1.000		50283.49		P	7.5
8	☐	1.000		48971.79		P	14.7
9	☐	1.000		51815.77		P	8.4

89 Y (ISTD) [No Gas]

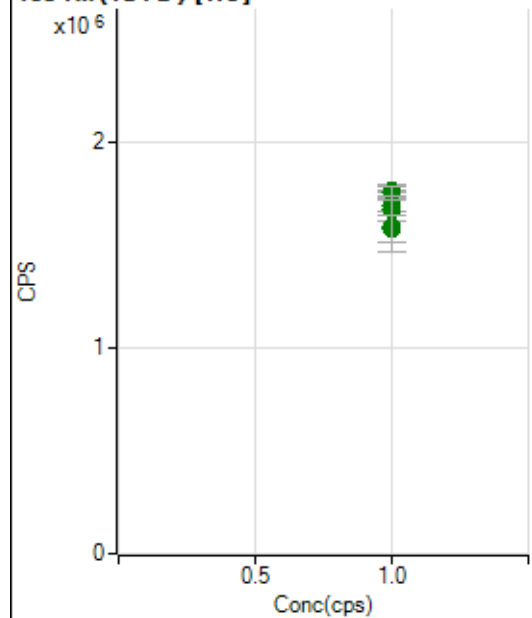
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4757448.33		A	10.6
2	☐	1.000					
3	☐	1.000		4878545.20		A	2.0
4	☐	1.000		4889188.78		A	4.7
5	☐	1.000		4973994.40		A	6.3
6	☐	1.000		5070171.94		A	2.7
7	☐	1.000		5080217.88		A	3.1
8	☐	1.000		5045899.75		A	2.5
9	☐	1.000		5014586.31		A	1.0

89 Y (ISTD) [He]

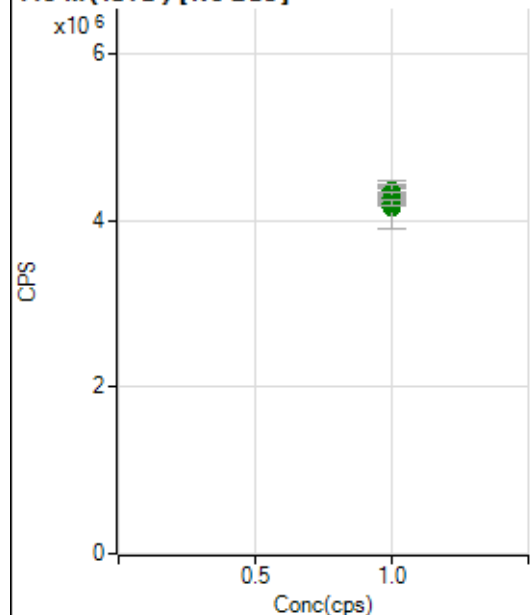
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		299143.29		P	2.4
2	☐	1.000					
3	☐	1.000		303872.61		P	3.1
4	☐	1.000		302797.33		P	1.3
5	☐	1.000		292604.65		P	5.1
6	☐	1.000		305925.77		P	1.9
7	☐	1.000		294163.96		P	7.1
8	☐	1.000		282196.67		P	15.1
9	☐	1.000		297508.48		P	8.0

103 Rh (ISTD) [No Gas]

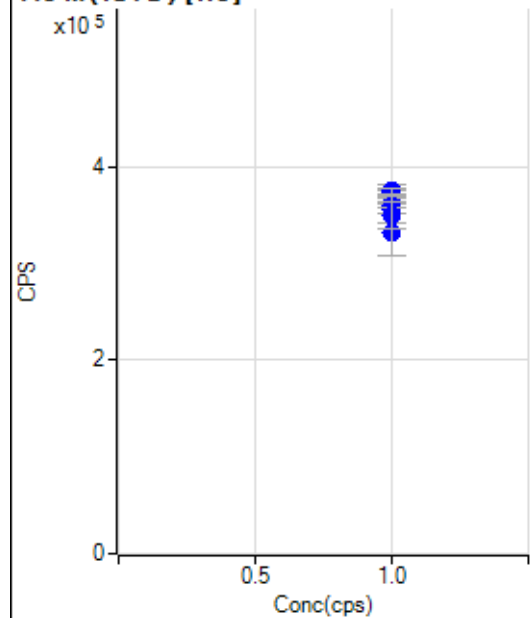
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4055018.49		A	11.3
2	☐	1.000					
3	☐	1.000		4231728.22		A	2.9
4	☐	1.000		4143028.35		A	3.3
5	☐	1.000		4225259.34		A	5.3
6	☐	1.000		4253644.76		A	3.3
7	☐	1.000		4203088.64		A	3.3
8	☐	1.000		4156879.52		A	2.7
9	☐	1.000		3967973.92		A	1.9

103 Rh (ISTD) [He]

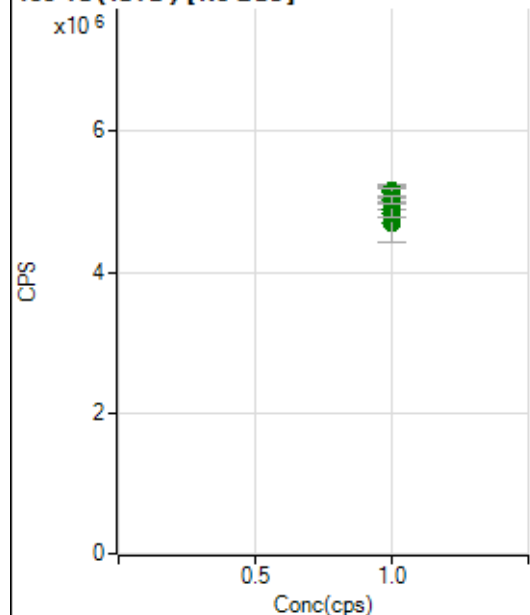
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1736753.88		A	2.6
2	☐	1.000					
3	☐	1.000		1759432.80		A	3.8
4	☐	1.000		1755393.51		A	0.6
5	☐	1.000		1692355.17		A	4.3
6	☐	1.000		1755813.12		A	2.4
7	☐	1.000		1672970.75		A	7.5
8	☐	1.000		1589340.90		A	15.3
9	☐	1.000		1578848.42		A	8.4

115 In (ISTD) [No Gas]

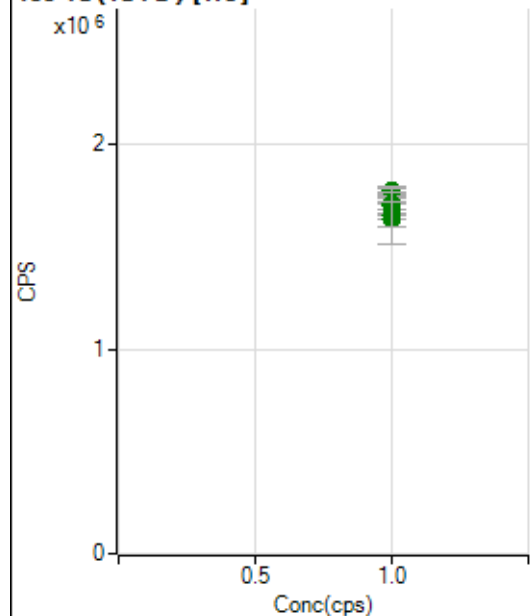
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4156816.59		A	11.7
2	☐	1.000					
3	☐	1.000		4276744.86		A	2.1
4	☐	1.000		4257831.63		A	4.0
5	☐	1.000		4340395.03		A	6.7
6	☐	1.000		4358066.37		A	2.8
7	☐	1.000		4353172.96		A	3.3
8	☐	1.000		4284044.62		A	3.0
9	☐	1.000		4205904.96		A	1.7

115 In (ISTD) [He]

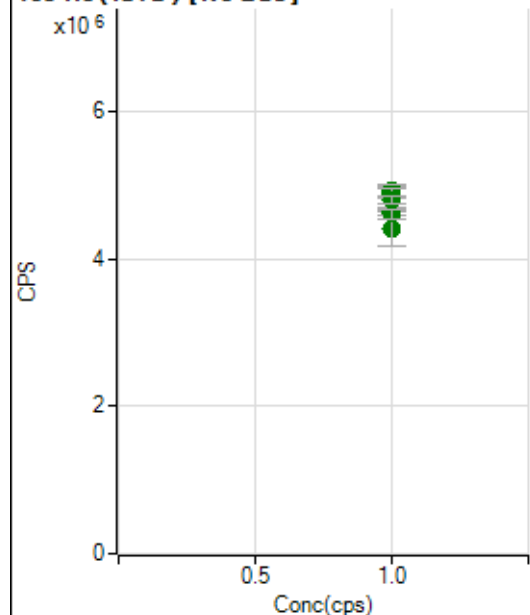
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		367849.19		P	2.9
2	☐	1.000					
3	☐	1.000		374861.68		P	3.4
4	☐	1.000		373630.63		P	1.4
5	☐	1.000		360119.35		P	4.3
6	☐	1.000		375443.85		P	1.7
7	☐	1.000		356331.06		P	8.1
8	☐	1.000		332840.64		P	15.2
9	☐	1.000		349687.88		P	8.0

159 Tb (ISTD) [No Gas]

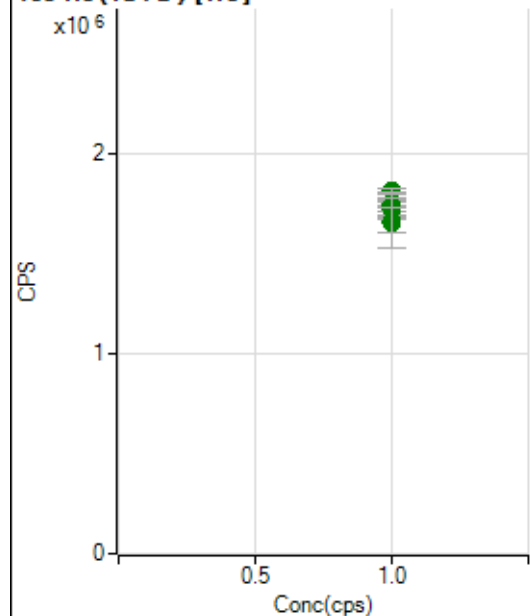
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4693291.60		A	11.6
2	☐	1.000					
3	☐	1.000		4845291.11		A	2.2
4	☐	1.000		4898184.61		A	4.3
5	☐	1.000		5092097.70		A	5.2
6	☐	1.000		5139669.19		A	2.8
7	☐	1.000		5153406.97		A	3.2
8	☐	1.000		5137842.91		A	2.2
9	☐	1.000		5028246.84		A	2.6

159 Tb (ISTD) [He]

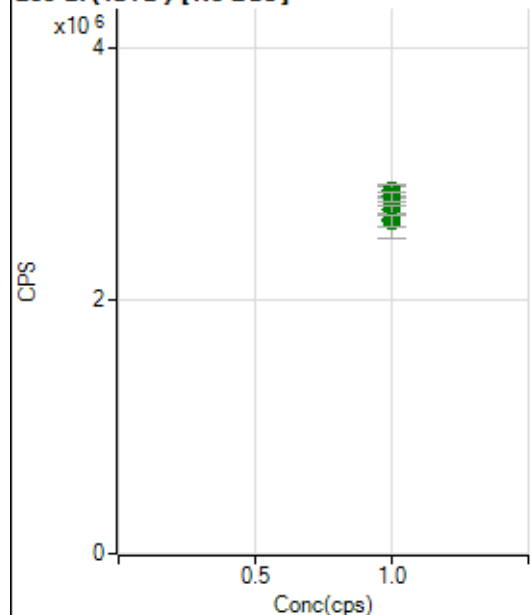
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1686294.16		A	3.4
2	☐	1.000					
3	☐	1.000		1715558.64		A	3.2
4	☐	1.000		1747934.70		A	1.1
5	☐	1.000		1704445.48		A	4.3
6	☐	1.000		1775034.73		A	2.6
7	☐	1.000		1710693.08		A	8.5
8	☐	1.000		1639307.20		A	15.7
9	☐	1.000		1658709.24		A	7.2

165 Ho (ISTD) [No Gas]

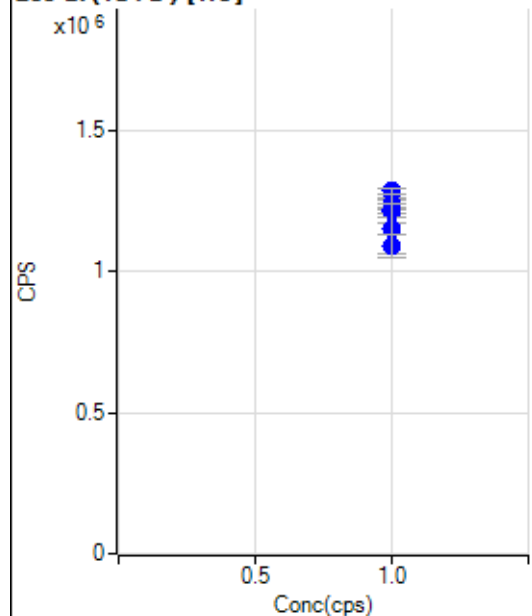
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		4412756.43		A	10.3
2	☐	1.000					
3	☐	1.000		4638834.69		A	1.5
4	☐	1.000		4631600.15		A	3.4
5	☐	1.000		4820946.68		A	6.1
6	☐	1.000		4907546.16		A	2.8
7	☐	1.000		4923607.49		A	3.6
8	☐	1.000		4882068.73		A	2.7
9	☐	1.000		4808134.26		A	2.1

165 Ho (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1723278.48		A	3.8
2	☐	1.000					
3	☐	1.000		1740971.78		A	3.2
4	☐	1.000		1748067.65		A	1.1
5	☐	1.000		1722595.28		A	5.1
6	☐	1.000		1814342.96		A	1.8
7	☐	1.000		1738130.93		A	7.6
8	☐	1.000		1652696.10		A	15.1
9	☐	1.000		1667780.50		A	7.3

209 Bi (ISTD) [No Gas]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		2644482.27		A	10.9
2	☐	1.000					
3	☐	1.000		2718902.95		A	2.0
4	☐	1.000		2747719.30		A	4.6
5	☐	1.000		2829350.83		A	5.5
6	☐	1.000		2868889.19		A	2.6
7	☐	1.000		2868761.28		A	3.8
8	☐	1.000		2824961.35		A	2.6
9	☐	1.000		2633164.79		A	3.2

209 Bi (ISTD) [He]

	Rj ct	Conc.	Calc Conc.	CPS	Ratio	Det .	RSD
1	☐	1.000		1209879.07		P	3.0
2	☐	1.000					
3	☐	1.000		1239080.04		P	3.2
4	☐	1.000		1255944.30		P	0.5
5	☐	1.000		1236775.15		P	5.5
6	☐	1.000		1284364.99		P	1.8
7	☐	1.000		1221600.62		P	7.9
8	☐	1.000		1152295.72		P	15.2
9	☐	1.000		1088932.47		P	7.2

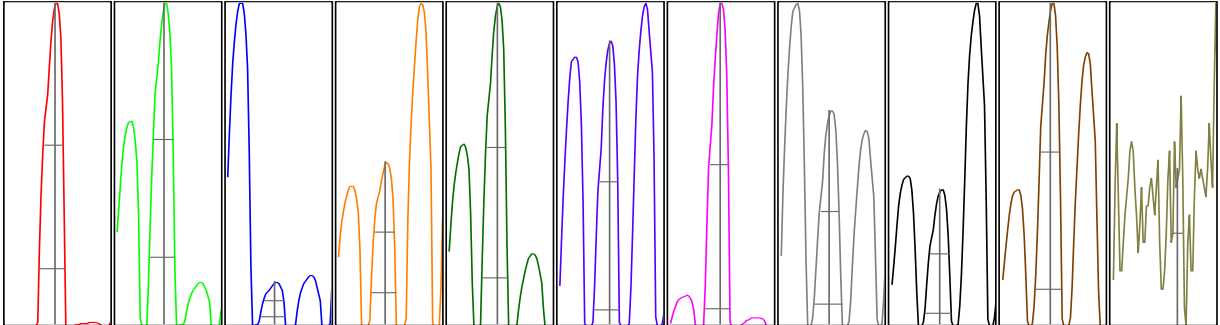
US EPA Tune Check Sample Report

Batch Folder D:\P8031119-IMS.b
Report Comment
Instrument Name G8403A JP17141814

[No Gas]				
Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	5888	2.16	5.00	
24	51781	2.73	5.00	
25	7237	2.17	5.00	
26	8717	2.12	5.00	
59	41077	2.32	5.00	
113	5078	2.26	5.00	
115	60346	2.35	5.00	
206	11561	2.35	5.00	
207	10641	2.50	5.00	
208	24663	2.27	5.00	
220	1	36.64		

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	5779	5901	5739	5992	6029
24	50551	51809	50287	53684	52575
25	7146	7250	7025	7345	7420
26	8574	8705	8501	8884	8921
59	40337	41047	39951	41998	42054
113	4969	5059	4974	5151	5235
115	59592	60543	58401	61083	62111
206	11375	11520	11236	11814	11862
207	10382	10609	10402	10814	10999
208	24225	24545	24069	25105	25371
220	1	2	1	2	2

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width- X% (Flag)
9	10783	8.95	8.9 - 9.1		0.738	0.900	
24	94922	23.90	23.9 - 24.1		0.721	0.900	
25	12754	24.90	24.9 - 25.1		0.705	0.900	
26	14906	25.90	25.9 - 26.1		0.698	0.900	
59	75828	58.95	58.9 - 59.1		0.734	0.900	
113	9716	113.00	112.9 - 113.1		0.729	0.900	
115	116769	115.00	114.9 - 115.1		0.726	0.900	
206	20902	205.95	205.9 - 206.1		0.793	0.900	
207	19034	206.95	206.9 - 207.1		0.761	0.900	
208	45087	207.95	207.9 - 208.1		0.759	0.900	
220	2	220.40	-				

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

Tune Parameters

Plasma Paramters

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

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.7	V	Deflect	16.0	V
Extract 2	-250.0	V	Cell Entrance	-30	V	Plate Bias	-35	V
Omega Bias	-120	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
He Flow	0.0	mL/min	OctP RF	200	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	8472	2.99	
89	3853	3.82	
205	8887	1.95	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	8730	8286	8324	8253	8766
89	4001	3737	3763	3740	4027
205	9043	8761	8807	8721	9102

Integration Time [sec] = 0.1

Tune Parameters

Plasma Paramters

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

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	9.7	V	Deflect	3.2	V
Extract 2	-250.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-120	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
He Flow	5.0	mL/min	OctP RF	200	V			