CDN Resource Laboratories Ltd.

Certificate of Analysis

REFERENCE MATERIAL: CDN-ME-2502

Recommended values and the "Between Lab" Two Standard Deviations

Analyte	SD	Mean -3 SD	Recommended values			Mean+3 SD	Method	Certification
			Mean -2 SD	MEAN	Mean+2 SD			
Au (gpt)	0.31	7.20	**7.51**	**8.12**	8.74	9.04	**30g FA / ICP or AA**	**Certified value**
Au (gpt)	0.44	6.80	7.24	**8.11**	8.99	9.42	**30g FA/gravimetric**	
Ag (ppm)	7	232	239	**253**	268	275		
Ag (ppm)	8	233	241	**256**	271	279	**4 Acid digestion / ICP finish**	
Cu (%)	0.007	0.316	0.323	**0.336**	0.350	0.356		
Mo (%)	0.005	0.197	0.201	**0.211**	0.220	0.224		
Pb (%)	0.16	14.42	14.58	**14.89**	15.20	15.32		
Zn (%)	0.003	0.091	0.094	**5.99**	0.105	0.108		
Ag (ppm)	7	232	239	**253**	267	274	**Aqua regia digestion / ICP finish**	
Cu (%)	0.005	0.321	0.326	**0.336**	0.346	0.351		
Mo (%)	0.003	0.199	0.202	**0.209**	0.215	0.218		
Pb (%)	0.15	14.37	14.52	**14.83**	15.13	15.29		
Zn (%)	0.003	0.088	0.091	**5.91**	0.104	0.107		

Note 1: Standards with an RSD of near or less than 5% are certified; RSD's of between 5% and 15% are Provisional; RSD's over 15% are Indicated. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty.

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Ali Alizadeh, MSc, MBA, P Geo, FGC
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., FGC
DATE OF CERTIFICATION: November 3rd, 2025

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-2502 was prepared from ore that became available to CDN from Red dog Mine, western Brooks Range, Alaska. The Red Dog Mine in Alaska is a world-class sediment-hosted Zn–Pb–Ag deposit hosted by Mississippian Pennsylvanian black shales and cherts of the Kuna Formation. Mineralization consists mainly of sphalerite, galena, and pyrite, with minor barite and associated silver, formed by hydrothermal replacement and seafloor exhalation in a restricted marine basin. The ore is stratiform, later deformed by thrust faulting, and exhibits strong silicification and local barite-rich alteration, with sulfides concentrated in brecciated and silicified zones. Together, these features define a classic shale-hosted Zn–Pb system, structurally remobilized during later deformation.

METHOD OF PREPARATION:
Reject ore material was dried, crushed, pulverized, and then passed through a 270-mesh screen. The +270 material was discarded. The -270 material was mixed for at least 5 days in a double-cone mixer. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

Assay Procedures:

Au: 30 gr. fire assay pre-concentration, AA or ICP finish and gravimetric finish.
Ag: Fire assay, gravimetric finish.
Ag, Cu, Mo, Pb, Zn: 4-acid and Aqua regia digestion AA or ICP finish.

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t-test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing database. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Quality Assurance and Quality Control Procedures:

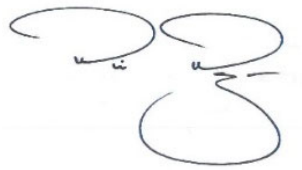
Screening Test: After completion of homogenization, three samples, 300g each of homogenized material were randomly collected and was re-screened by a testing sieve. Over size material of this standard and based on CDN's screening test was ~%1.0.

Homogeneity Test:
Ten samples were selected from across the batch and submitted to an independent assay laboratory for homogeneity testing in accordance with Annex B, Homogeneity and Stability of Proficiency Test Items, ISO 13528. The selected samples were analyzed for Au using neutron activation and photon assay. The recommended gross mass range for this material is 585–615 g. The samples showed no heterogeneous response to the detectors. The assay results were statistically evaluated by calculating the mean, standard deviation, and %RSD. Based on this assessment, conducted in accordance with ISO 13528 procedures, CDN-ME-2502 is considered statistically homogeneous (see Appendix III).

LEGAL NOTICE:

This certificate and the reference material described in it have been prepared with due care and attention. However, CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Ali Alizadeh, MSc, MBA, P.Geo.

Geochemist

Dr. Barry Smee, PhD, FGC

APPENDIX I:

Whole rock analysis and 30 element ICP analysis (4-acid digestion) were also conducted on 3 samples.

APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):

Analyte	Percent	Analyte	Percent
SiO_2	50.4	**Na_2O**	0.4
Al_2O_3	3.2	**MgO**	1.5
Fe_2O_3	9.1	**K2O**	0.5
CaO	1.7	**TiO_2**	0.1
MnO	0.1	**LOI**	9.6
Total S	10.2	**Total C**	0.4

Participating Laboratories: (not in same order as table of assays)

Activation Labs, Ancaster, Ontario, Canada	ALS Canada, North Vancouver, BC, Canada
Activation Labs, Thunder Bay, Ontario, Canada	Bureau Veritas, Vancouver, BC, Canada
AGAT, Calgary, Canada	Certimin S.A., Lima, Peru
ALS, Brisbane, Australia	Intertek, Perth, Australia
ALS, Perth, Australia	MS Analytical, Langley, BC, Canada
ALS Lima, Peru	SGS Lakefield, ON, Canada
ALS, Loughrea, Ireland	SGS, Vancouver, BC, Canada
ALS, Johannesburg, South Africa	

APPENDIX II: Results from round-robin assaying:

Sample	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au (g/t) by Fire Assay, 30g sample size and Instrumental finish														
ME-2502	6.89	8.03	8.62	7.93	7.78	NSS	8.34	8.59	8.64	8.288	8.08	8.161	7.94	8.37	8.29
	7.02	8.75	8.03	8.07	7.95	NSS	8.38	8.23	8.02	8.372	9.23	8.004	7.67	8.78	7.89
	8.86	8.69	8.14	8.61	7.93	8.32	8.61	8.66	7.95	8.230	7.98	8.195	7.63	8.58	7.90
	8.48	8.13	8.17	7.97	7.89	8.64	8.22	8.38	8.66	8.241	7.81	8.324	7.42	8.27	7.84
	7.37	8.15	8.30	8.17	7.89	NSS	8.05	8.86	8.90	7.918	8.36	8.002	8.16	8.54	8.06
	8.33	7.43	8.19	8.22	7.76	NSS	7.94	8.75	7.99	7.951	10.02	8.402	7.71	8.67	7.66
	7.36	7.49	7.81	8.20	7.86	7.63	7.92	8.71	7.75	7.601	8.42	8.661	7.64	8.27	7.74
	8.06	7.83	7.93	8.27	8.11	NSS	8.31	8.45	8.03	7.928	8.47	8.605	7.44	8.03	7.83
	7.49	7.86	8.30	8.14	8.40	NSS	8.15	7.96	7.80	7.697	9.29	7.945	7.66	8.30	7.96
	6.77	8.86	8.37	8.45	8.22	NSS	7.95	7.61	7.82	8.153	7.76	7.826	7.64	8.53	7.92
Mean	7.66	8.12	8.19	8.20	7.98	8.20	8.19	8.42	8.16	8.038	8.54	8.213	7.69	8.43	7.91
Std. Devn.	0.72	0.51	0.23	0.21	0.20	0.52	0.23	0.39	0.42	0.26	0.74	0.28	0.22	0.23	0.17
% RSD	9.45	6.2	2.8	2.5	2.6	6.3	2.8	4.6	5.1	3.2	8.7	3.4	2.8	2.7	2.2
	Au (g/t) by Fire Assay and gravimetric finish														
ME-2502	6.59	7.46	8.4	-	8.06	NSS	7.88	9.33	8.31	-	7.883	8.395	6.7	7.69	8.14
	8.27	7.46	8.0	-	7.96	8.94	7.47	8.71	7.63	-	8.054	8.473	8.4	7.48	8.24
	8.67	7.74	8.1	-	8.47	7.05	7.68	8.30	8.42	-	7.951	8.227	5.8	6.83	7.70
	8.08	7.28	8.3	-	8.21	7.57	7.54	8.21	8.34	-	8.141	8.146	8.6	8.98	7.81
	8.18	7.41	7.9	-	8.48	7.84	7.89	8.53	7.53	-	8.084	8.499	7.6	8.30	8.10
	8.10	7.91	7.9	-	8.27	8.53	7.58	8.10	8.46	-	7.879	8.098	6.9	8.40	8.14
	7.49	7.39	8.4	-	8.16	NSS	7.80	8.07	7.67	-	8.173	8.597	8.5	7.26	8.35
	9.79	7.06	8.1	-	8.46	7.12	7.33	8.79	8.66	-	8.344	8.268	8.8	8.46	8.30
	8.69	8.76	8.0	-	8.03	8.84	7.85	7.89	8.63	-	8.088	8.169	8.9	8.23	8.23
	8.03	8.40	8.2	-	7.84	8.75	7.58	8.46	8.38	-	7.754	8.670	7.7	8.63	8.04
Mean	8.19	7.69	8.1	-	8.19	8.08	7.66	8.44	8.20	-	8.035	8.354	7.8	8.03	8.11
Std. Devn.	0.83	0.53	0.19	-	0.23	0.78	0.19	0.42	0.43	-	0.17	0.20	1.04	0.68	0.21
% RSD	10.09	6.9	2.3	-	2.8	9.7	2.5	5.0	5.2	-	2.1	2.4	13.4	8.5	2.6
	Ag (g/t) by Fire Assay and gravimetric finish														
ME-2502	241	257	-	-	260	NSS	254	-	268	-	254	256	228	289	249
	270	262	-	-	252	219	252	-	274	-	267	247	248	291	254
	249	268	-	-	250	225	246	-	240	-	254	246	265	244	257
	244	264	-	-	256	222	255	-	248	-	272	257	252	293	251
	250	265	-	-	246	220	249	-	251	-	260	259	236	291	260
	252	265	-	-	244	243	252	-	244	-	258	248	169	282	254
	242	260	-	-	236	NSS	252	-	248	-	253	254	255	269	254
	237	268	-	-	240	247	268	-	246	-	259	256	252	275	255
	254	259	-	-	248	255	255	-	255	-	258	254	244	281	253
	251	259	-	-	244	233	250	-	247	-	252	255	250	287	255
Mean	249	263	-	-	248	233	253	-	252	-	259	253	240	280	254
Std. Devn.	9.2	3.9	-	-	7.2	13.8	5.9	-	10.8	-	6.4	4.5	26.9	14.9	3.0
% RSD	3.70	1.5	-	-	2.9	5.9	2.3	-	4.3	-	2.5	1.8	11.2	5.3	1.2

Ag (g/t) by 4 Acid digestion /ICP finish															
ME-2502	269	258	239	255	256	267	257	253	237	250	250	251	272	261	246
	263	249	235	252	251	255	251	263	236	250	250	255	268	260	244
	252	264	231	247	260	261	261	265	241	257	255	247	262	258	246
	243	263	260	261	257	268	264	257	243	261	240	243	271	239	246
	261	226	230	249	263	257	259	259	237	266	253	267	267	251	256
	255	251	245	251	254	261	262	246	240	255	244	261	266	241	246
	248	255	234	253	257	247	258	263	237	270	254	247	268	249	241
	258	260	238	250	272	255	248	282	251	264	252	253	262	253	252
	252	260	270	253	265	257	265	255	236	255	249	263	260	246	243
	258	251	228	266	265	257	260	260	238	267	254	245	269	250	246
Mean	256	254	241	254	260	259	259	260	240	260	250	253	267	251	247
Std. Devn.	7.6	11.0	13.8	5.8	6.3	6.1	5.4	9.5	4.6	7.1	4.8	8.2	4.0	7.5	4.4
% RSD	2.96	4.3	5.7	2.3	2.4	2.4	2.1	3.6	1.9	2.8	1.9	3.2	1.5	3.0	1.8
Ag (g/t) by Aqua Regia digestion /ICP finish															
ME-2502	266	240	233	246	246	252	260	244	244	242.52	252	260	253	248	240
	275	244	235	246	248	237	270	243	265	259.10	257	258	256	249	232
	270	243	232	257	251	246	256	269	262	254.48	252	268	257	243	247
	255	251	243	266	247	242	258	248	246	258.73	254	253	259	239	239
	261	260	236	248	250	255	248	252	258	255.46	260	255	252	245	243
	264	254	234	256	256	244	264	254	248	254.82	260	250	258	268	243
	268	246	251	255	252	256	251	258	249	257.27	251	262	253	245	251
	266	247	234	253	257	257	263	253	254	256.74	249	246	250	241	247
	259	238	251	262	243	258	249	259	259	258.21	250	244	250	256	252
	257	253	224	263	252	255	257	257	262	248.52	254	261	249	252	248
Mean	264	248	237	255	250	250	258	254	255	254.59	254	256	254	249	244
Std. Devn.	6.2	6.9	8.6	7.1	4.4	7.4	7.0	7.7	7.5	5.2	3.9	7.6	3.6	8.5	6.1
% RSD	2.34	2.8	3.6	2.8	1.7	2.9	2.7	3.0	3.0	2.1	1.5	3.0	1.4	3.4	2.5
Cu (%) by 4 Acid digestion Instrumental finish															
ME-2502	0.329	0.338	0.330	0.331	0.340	0.339	0.337	0.332	0.334	0.342	0.351	0.34	0.352	0.33	0.331
	0.327	0.330	0.323	0.333	0.340	0.334	0.337	0.334	0.329	0.343	0.347	0.34	0.345	0.32	0.330
	0.331	0.348	0.332	0.333	0.341	0.340	0.333	0.334	0.330	0.345	0.348	0.33	0.350	0.32	0.329
	0.333	0.326	0.330	0.335	0.342	0.340	0.339	0.333	0.333	0.346	0.347	0.34	0.339	0.32	0.327
	0.328	0.311	0.334	0.332	0.341	0.342	0.336	0.335	0.333	0.340	0.345	0.34	0.348	0.32	0.328
	0.327	0.337	0.341	0.332	0.335	0.345	0.337	0.330	0.327	0.344	0.344	0.34	0.343	0.32	0.329
	0.330	0.344	0.330	0.332	0.336	0.331	0.338	0.335	0.333	0.344	0.348	0.33	0.348	0.32	0.324
	0.328	0.338	0.326	0.337	0.344	0.346	0.336	0.341	0.327	0.347	0.354	0.34	0.333	0.33	0.327
	0.324	0.334	0.331	0.343	0.342	0.328	0.340	0.343	0.327	0.338	0.348	0.34	0.347	0.33	0.323
	0.330	0.335	0.327	0.334	0.337	0.329	0.339	0.335	0.333	0.343	0.353	0.34	0.347	0.33	0.330
Mean	0.329	0.334	0.330	0.334	0.340	0.337	0.337	0.335	0.331	0.343	0.349	0.34	0.345	0.32	0.328
Std. Devn.	0.002	0.010	0.005	0.004	0.003	0.007	0.002	0.004	0.003	0.003	0.003	0.004	0.006	0.005	0.003
% RSD	0.760	3.07	1.48	1.06	0.85	1.93	0.59	1.17	0.88	0.80	0.93	1.25	1.63	1.59	0.80

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Cu (%) by Aqua Regia digestion /ICP finish															
ME-2502	0.338	0.327	0.330	0.336	0.336	0.333	0.347	0.326	0.335	0.319	0.330	0.34	0.345	0.34	0.330
	0.336	0.328	0.336	0.335	0.334	0.326	0.349	0.340	0.338	0.341	0.329	0.33	0.340	0.34	0.330
	0.335	0.329	0.328	0.338	0.334	0.326	0.344	0.337	0.335	0.339	0.332	0.34	0.337	0.33	0.331
	0.331	0.334	0.337	0.337	0.336	0.325	0.342	0.332	0.332	0.346	0.338	0.34	0.346	0.34	0.333
	0.337	0.329	0.345	0.337	0.337	0.330	0.345	0.338	0.331	0.341	0.342	0.34	0.342	0.34	0.329
	0.330	0.332	0.339	0.338	0.341	0.325	0.344	0.337	0.334	0.344	0.331	0.33	0.341	0.34	0.331
	0.338	0.331	0.343	0.339	0.337	0.332	0.348	0.340	0.334	0.340	0.329	0.34	0.333	0.33	0.332
	0.330	0.332	0.335	0.338	0.339	0.332	0.342	0.334	0.336	0.350	0.336	0.34	0.352	0.33	0.333
	0.330	0.331	0.345	0.338	0.338	0.337	0.342	0.338	0.336	0.350	0.330	0.34	0.337	0.34	0.330
	0.332	0.328	0.339	0.341	0.338	0.336	0.341	0.340	0.337	0.335	0.334	0.34	0.339	0.34	0.328
Mean	0.334	0.330	0.338	0.338	0.337	0.330	0.344	0.336	0.335	0.341	0.333	0.34	0.341	0.34	0.331
Std. Devn.	0.003	0.002	0.006	0.002	0.002	0.005	0.003	0.004	0.002	0.009	0.004	0.004	0.005	0.005	0.002
% RSD	1.029	0.68	1.72	0.48	0.64	1.37	0.81	1.32	0.64	2.62	1.31	1.25	1.59	1.43	0.49
Mo (%) by 4 Acid digestion Instrumental finish															
ME-2502	0.213	0.206	0.190	0.214	0.205	0.203	0.209	0.207	0.208	0.2158	0.213	0.21	0.228	0.215	0.212
	0.211	0.197	0.187	0.215	0.206	0.201	0.206	0.208	0.208	0.2160	0.214	0.22	0.231	0.208	0.211
	0.188	0.206	0.191	0.214	0.208	0.204	0.209	0.208	0.209	0.2156	0.211	0.21	0.227	0.210	0.212
	0.196	0.199	0.191	0.215	0.211	0.205	0.206	0.207	0.211	0.2145	0.213	0.22	0.227	0.211	0.211
	0.213	0.197	0.192	0.211	0.209	0.203	0.207	0.209	0.208	0.2179	0.213	0.22	0.235	0.205	0.209
	0.211	0.208	0.196	0.214	0.206	0.205	0.205	0.205	0.210	0.2163	0.213	0.22	0.231	0.214	0.214
	0.191	0.212	0.193	0.214	0.206	0.201	0.205	0.208	0.209	0.2155	0.210	0.21	0.228	0.204	0.209
	0.212	0.212	0.185	0.216	0.211	0.207	0.204	0.212	0.205	0.2175	0.216	0.22	0.229	0.213	0.215
	0.188	0.204	0.188	0.205	0.205	0.197	0.206	0.213	0.209	0.2133	0.214	0.22	0.231	0.214	0.208
	0.212	0.202	0.189	0.217	0.206	0.198	0.205	0.209	0.212	0.2157	0.214	0.22	0.229	0.214	0.214
Mean	0.204	0.204	0.190	0.214	0.207	0.202	0.206	0.209	0.209	0.2158	0.213	0.22	0.230	0.211	0.212
Std. Devn.	0.011	0.006	0.003	0.003	0.002	0.003	0.002	0.002	0.002	0.0013	0.002	0.005	0.002	0.004	0.002
% RSD	5.507	2.72	1.66	1.58	1.12	1.57	0.82	1.13	0.92	0.6114	0.78	2.23	1.07	1.88	1.12
Mo (%) by Aqua Regia digestion /ICP finish															
ME-2502	0.212	0.206	0.189	0.212	0.206	0.205	0.209	0.200	0.212	0.1970	0.205	0.21	0.204	0.207	0.209
	0.208	0.207	0.193	0.210	0.207	0.203	0.211	0.208	0.216	0.2088	0.206	0.21	0.202	0.209	0.210
	0.209	0.210	0.185	0.210	0.206	0.202	0.211	0.204	0.213	0.2109	0.206	0.21	0.196	0.207	0.210
	0.207	0.209	0.192	0.211	0.206	0.202	0.210	0.206	0.211	0.2098	0.210	0.21	0.200	0.210	0.212
	0.212	0.210	0.191	0.213	0.206	0.204	0.209	0.207	0.213	0.2063	0.215	0.21	0.199	0.210	0.210
	0.208	0.209	0.190	0.211	0.217	0.201	0.210	0.206	0.217	0.2100	0.209	0.21	0.204	0.208	0.212
	0.211	0.210	0.192	0.213	0.208	0.206	0.210	0.208	0.212	0.2092	0.206	0.21	0.198	0.205	0.212
	0.208	0.211	0.184	0.213	0.209	0.205	0.208	0.202	0.214	0.2130	0.208	0.21	0.204	0.204	0.215
	0.208	0.209	0.188	0.211	0.220	0.211	0.211	0.206	0.209	0.2106	0.205	0.21	0.199	0.206	0.210
	0.209	0.209	0.189	0.217	0.209	0.208	0.208	0.208	0.214	0.2051	0.213	0.20	0.196	0.207	0.209
Mean	0.209	0.209	0.189	0.212	0.209	0.205	0.210	0.206	0.213	0.2081	0.208	0.21	0.200	0.207	0.211
Std. Devn.	0.002	0.001	0.003	0.002	0.005	0.003	0.001	0.003	0.002	0.004	0.003	0.003	0.003	0.002	0.002
% RSD	0.867	0.71	1.58	0.98	2.38	1.49	0.55	1.32	1.09	2.16	1.66	1.51	1.58	0.97	0.88

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Pb (%) by 4 Acid digestion Instrumental finish															
ME-2502	14.7	14.9	15.3	14.95	14.85	14.90	15.10	14.90	14.95	14.82	>10.00	15.08	15.21	14.89	15.1
	14.7	14.4	15.5	15.05	14.85	14.85	14.90	14.95	14.95	14.92	>10.00	14.92	15.10	14.53	15.0
	14.6	> 15.0	15.2	14.95	15.05	14.95	15.00	14.85	14.60	14.89	>10.00	14.77	15.00	14.64	14.9
	14.6	14.5	14.4	15.00	15.20	15.10	14.80	14.85	14.85	14.90	>10.00	15.13	14.95	14.70	14.9
	> 15.0	14.6	15.9	14.85	15.20	14.95	14.95	15.05	14.60	15.02	>10.00	14.99	14.90	14.53	14.8
	14.8	> 15.0	14.5	14.95	14.95	15.00	14.70	14.65	14.60	14.88	>10.00	14.97	14.78	14.82	14.9
	14.6	> 15.0	14.5	14.95	14.85	14.70	14.80	14.90	14.65	15.01	>10.00	15.25	14.92	14.46	14.8
	14.7	> 15.0	15.1	15.05	15.35	15.05	14.80	15.20	14.40	15.13	>10.00	15.04	14.72	14.88	15.1
	14.3	14.9	15.1	14.80	15.10	14.65	14.85	15.25	14.50	14.83	>10.00	14.94	14.97	14.77	14.8
	14.7	14.9	15.2	15.10	15.10	14.75	14.80	14.90	14.80	14.90	>10.00	14.85	15.08	14.87	15.0
Mean	14.6	14.7	15.1	14.97	15.05	14.89	14.87	14.95	14.69	14.93	-	14.99	14.96	14.71	14.9
Std. Devn.	0.14	0.23	0.48	0.09	0.17	0.15	0.12	0.18	0.19	0.10	-	0.14	0.15	0.16	0.12
% RSD	0.97	1.6	3.2	0.6	1.2	1.0	0.8	1.2	1.3	0.7	-	0.9	1.0	1.1	0.8
Pb (%) by Aqua Regia digestion /ICP finish															
ME-2502	> 15.0	14.6	13.4	14.85	15.00	14.55	14.95	14.55	14.85	-	>4.00	14.89	>5	>10.0	14.1
	> 15.0	14.7	14.2	14.75	14.95	14.70	14.80	14.95	15.05	-	>4.00	14.74	>5	>10.0	14.0
	> 15.0	14.8	13.8	14.70	15.00	14.50	14.75	14.70	14.85	-	>4.00	14.91	>5	>10.0	14.1
	> 15.0	14.7	13.7	14.85	14.95	14.50	14.75	14.65	14.65	-	>4.00	14.89	>5	>10.0	14.5
	> 15.0	14.9	14.1	14.90	15.05	14.45	14.85	14.85	14.80	-	>4.00	14.86	>5	>10.0	14.3
	> 15.0	14.7	14.3	14.90	14.55	14.35	14.80	14.75	15.00	-	>4.00	14.78	>5	>10.0	14.0
	> 15.0	14.8	13.9	15.00	15.05	14.70	14.90	14.90	14.90	-	>4.00	14.88	>5	>10.0	14.1
	> 15.0	15.0	13.6	15.00	15.20	14.55	14.80	14.60	14.90	-	>4.00	14.88	>5	>10.0	13.4
	> 15.0	14.8	14.1	14.85	14.75	14.95	14.70	14.80	14.65	-	>4.00	14.96	>5	>10.0	13.5
	> 15.0	14.8	13.3	15.15	15.15	14.70	14.70	14.95	15.00	-	>4.00	15.17	>5	>10.0	13.9
Mean	-	14.78	13.8	14.90	14.97	14.60	14.80	14.77	14.87	-	-	14.90	-	-	14.0
Std. Devn.	-	0.11	0.34	0.13	0.19	0.17	0.08	0.14	0.14	-	-	0.12	-	-	0.33
% RSD	-	0.8	2.5	0.9	1.3	1.2	0.6	1.0	0.9	-	-	0.8	-	-	2.4
Zn (%) by 4 Acid digestion Instrumental finish															
ME-2502	6.12	6.03	5.82	6.00	5.94	5.85	5.71	6.07	5.81	5.97	6.33	6.00	6.17	6.13	6.08
	6.05	5.87	5.37	6.03	5.99	5.77	5.81	6.15	5.79	6.00	6.29	6.03	6.11	5.94	6.03
	5.69	6.16	5.71	6.02	5.99	5.89	5.63	6.07	5.83	6.02	6.26	5.92	6.22	5.97	6.02
	5.77	5.80	5.84	6.05	6.04	5.91	5.68	6.08	5.90	6.06	6.29	6.07	6.13	6.08	6.04
	6.16	5.54	5.62	5.95	6.03	5.87	5.71	6.13	5.81	6.02	6.25	5.98	6.21	5.88	6.04
	6.12	5.99	5.80	6.02	5.92	5.90	5.65	6.03	5.82	5.93	6.24	6.00	6.22	6.10	6.02
	5.71	6.07	5.70	6.03	5.91	5.81	5.69	6.12	5.84	6.03	6.29	6.12	6.21	5.88	5.95
	6.10	5.97	5.72	6.05	6.10	5.95	5.82	6.19	5.75	6.11	6.41	5.99	5.98	6.08	6.03
	5.59	5.89	6.06	5.99	6.02	5.66	5.68	6.28	5.82	5.98	6.31	5.98	6.26	6.09	6.00
	6.07	5.99	5.41	6.09	5.93	5.69	5.71	6.10	5.91	5.99	6.37	5.95	6.13	6.13	6.05
Mean	5.94	5.93	5.71	6.02	5.99	5.83	5.71	6.12	5.83	6.01	6.30	6.00	6.16	6.03	6.03
Std. Devn.	0.22	0.17	0.20	0.04	0.06	0.10	0.06	0.07	0.05	0.05	0.05	0.06	0.08	0.10	0.03
% RSD	3.70	2.9	3.6	0.6	1.0	1.7	1.1	1.2	0.8	0.8	0.8	1.0	1.3	1.7	0.6

Sample	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Zn by Aqua Regia digestion Instrumental finish														
ME-2502	6.19	5.88	6.01	5.91	5.80	5.80	5.93	5.48	5.93	-	5.81	5.93	6.16	6.00	5.95
	6.22	5.82	6.19	5.84	5.74	5.80	5.95	5.88	6.06	-	5.81	5.87	6.08	5.99	5.93
	6.17	5.90	5.92	5.88	5.77	5.70	5.89	5.79	5.95	-	5.83	5.95	5.85	5.98	5.94
	6.11	5.96	5.95	5.89	5.78	5.69	5.91	5.75	5.90	-	5.96	6.02	5.96	6.01	5.98
	6.24	5.89	6.04	5.92	5.81	5.75	5.95	5.79	5.97	-	6.08	5.97	5.92	6.03	5.92
	6.12	5.91	6.27	5.89	5.88	5.69	5.92	5.80	6.00	-	5.90	5.93	6.12	5.96	5.84
	6.20	5.93	6.11	5.96	5.79	5.82	5.95	5.86	5.96	-	5.83	5.95	5.98	5.91	5.95
	6.14	6.00	6.00	5.93	5.88	5.79	5.93	5.77	5.99	-	5.89	5.97	6.05	5.89	5.98
	6.12	5.95	6.37	5.89	5.95	5.95	5.88	5.82	5.85	-	5.81	6.00	5.91	5.90	5.93
	6.15	5.95	5.88	6.04	5.89	5.84	5.86	5.86	5.98	-	6.01	6.09	5.87	5.93	5.92
Mean	6.17	5.92	6.07	5.92	5.83	5.78	5.92	5.78	5.96	-	5.89	5.97	5.99	5.96	5.93
Std. Devn.	0.05	0.05	0.16	0.05	0.07	0.08	0.03	0.11	0.06	-	0.10	0.06	0.11	0.05	0.04
% RSD	0.73	0.9	2.6	0.9	1.1	1.4	0.5	2.0	1.0	-	1.6	1.0	1.8	0.8	0.7

Notes:

highlighted results assayed were removed for failing the t-test.

APPENDIX III: QAQC

Table below illustrates percentages of over size (+275 mesh) material in CDN-ME-2502

Standard	Study Date	Total weight Screened (g)	Total weight Over size (g)	Percentage
ME-2502	26-May-25	300	5	1.7%
	26-May-25	300	6	2.0%
	26-May-25	300	6	2.0%

Table below shows homogeneity test results of CDN-ME-2502

	Au Original	Au Repeat	Between Sample Variance Wt	Sample Avg. Xt	Stdev of Sample Avg	Within-Sample Std.
ME-2502	8.11	7.97	0.137	8.038	7.073	0.019
	8.18	8.34	0.158	8.263	8.324	0.025
	7.91	8.18	0.273	8.048	7.130	0.074
	7.87	8.08	0.215	7.974	6.739	0.046
	7.84	7.74	0.096	7.790	5.817	0.009
	7.96	8.18	0.219	8.071	7.251	0.048
	8.02	8.13	0.110	8.077	7.284	0.012
	7.91	8.01	0.099	7.958	6.652	0.010
	7.80	8.45	0.653	8.122	7.529	0.427
	7.93	8.74	0.806	8.333	8.729	0.650
	8.11	7.97	0.137	8.038	7.073	0.019
	8.18	8.34	0.158	8.263	8.324	0.025
	7.91	8.18	0.273	8.048	7.130	0.074
	7.87	8.08	0.215	7.974	6.739	0.046
	7.84	7.74	0.096	7.790	5.817	0.009
Statistics			**Gavg**	**SX**	**SS**	
Mean	7.95	8.18	**5.38**	**2.28**	**2.27**	
SD	0.12	0.28	**C**	**C SQRT**		
RSD	1.52	3.37	**8.79**	**2.96**		
Proof of Homogeneity	Based on Statistical procedures outlined in Annex B, ISO 13528:2022 guidelines, if "SS is < square root of C" Standard is considered homogeneous. **ME-2502 is statistically homogenous**					

	Au Original	Au Repeat	Between Sample Variance Wt	Sample Avg. Xt	Stdev of Sample Avg	Within-Sample Std.
ME-2502	69.1	70.3	1.263	69.716	4139.330	1.595
	69.3	73.0	3.751	71.139	4324.456	14.071
	62.4	68.7	6.274	65.559	3621.754	39.364
	66.9	73.3	6.338	70.118	4191.271	40.173
	68.5	68.0	0.502	68.222	3949.387	0.252
	68.2	62.7	5.440	65.470	3611.016	29.598
	69.2	75.9	6.743	72.568	4514.485	45.463
	80.5	72.3	8.156	76.418	5046.667	66.523
	72.1	77.0	4.944	74.544	4783.887	24.442
	69.9	74.4	4.477	72.155	4459.109	20.041
	69.1	70.3	1.263	69.716	4139.330	1.595
	69.3	73.0	3.751	71.139	4324.456	14.071
	62.4	68.7	6.274	65.559	3621.754	39.364
	66.9	73.3	6.338	70.118	4191.271	40.173
	68.5	68.0	0.502	68.222	3949.387	0.252
Statistics			**Gavg**	**SX**	**SS**	
Mean	69.6	71.6	**47.1**	**55.2**	**55.15**	
SD	4.6	4.3	**C**	**C SQRT**		
RSD	6.6	5.9	**5154.1**	**71.8**		
Proof of Homogeneity	Based on Statistical procedures outlined in Annex B, ISO 13528:2022 guidelines, if "SS is < square root of C" Standard is considered homogeneous. **ME-2502 is statistically homogenous**					

APPENDIX IV: General Notes

Intended Use

This Certified Reference Material fits for use as a control sample in routine assay laboratory quality control when inserted within runs of test samples and measured in parallel to test samples. This material can also be used for method development, use as independent calibration verification check standard or for validation of accuracy in a method validation exercise.

This CRM can also be used to assess inter-laboratory or instrument bias and establish within-laboratory precision and within-laboratory reproducibility. The certified concentrations and expanded uncertainty for this material are property

values based on an inter-laboratory measurement campaign and reflected consensus results from the laboratories that took part in the exercise.

Handling

Do not use it if the seal is broken or there are any signs of contamination.

The material is packaged in either Tin Tie envelopes, foil envelopes or jars that must be shaken before use.

Storage information

The material should be stored in a dry place, in such a way that it does not compromise the integrity of the CRM. The material should be stored in conditions which will ensure it does not absorb moisture.

Certificate is not valid if re-packaged by a third party.

Metrological Traceability

The values quoted herein are based on the consensus values derived from statistical analysis of the data from an inter-laboratory measurement program. Traceability to SI units is via the standards used by the individual laboratories, all of which are accredited to the ISO17025 general requirements for the competence of testing and calibration laboratories and who have maintained measurement traceability during the analytical process.

Period of Validity

The certified values are valid for this product, while still sealed in its original packaging, until notification to the contrary. The material's stability will undergo regular testing every five years throughout its inventory duration. Should product stability become an issue, all customers will be notified and notification to that effect will be placed on the http://www.cdnlabs.com/ website.

Minimum Sample Size

Most of the laboratory's reporting used a 0.5g sample size for the ICP and a 30g sample size for the fire assay.
Our certified gold values are based on 30 g Fire Assay determinations. For optimal results, we strongly recommend you assay our standards with similar methods using "at least" 30 g of material. Using a smaller sample weight may result in erratic values. These are the recommended minimum sample sizes for the use of this material.

Abbreviations and Symbols

SD: Standard Deviation
gpt: grams per tonne
FA: Fire assay
4 Acid / ICP: 4 Acid digestion / ICP finish
Aqua regia / ICP: Aqua regia digestion / ICP finish
Mean +/-2 SD: Warning Limit
Mean +/-3 SD: Control Limit
ppm: Parts Per Million
Au: Gold
Ag: Silver
Cu: Copper
Pb: Lead
Mo: Molybdenum
Zn: Zinc

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