

CDN Resource Laboratories Ltd.

Certificate of Analysis

REFERENCE MATERIAL: CDN-ME-2403

Recommended values and the "Between Lab" Two Standard Deviations

Precious Metals and Targeted Major Base Metals				
Gold	0.288 gpt	±	0.027 gpt	Certified value
Copper	0.315 %	±	0.016 %	
Molybdenum	0.0024 %	±	0.0002 %	
Lead	191 ppm	±	13 ppm	
Zinc	535 ppm	±	34 ppm	

Major and Minor Base Metals				
Calcium	4.37 %	±	0.24 %	Certified value
Cobalt	76.9 ppm	±	3.9 ppm	
Iron	8.52 %	±	0.44 %	
Potassium	0.31 %	±	0.01 %	
Magnesium	4.64 %	±	0.11 %	
Manganese	903.2 ppm	±	27.8 ppm	
Nickel	0.126 %	±	0.008 %	
Sodium	1.50 %	±	0.06	
Strontium	264 ppm	±	12 ppm	
Sulfur	0.65 %	±	0.05	

Major Oxides				
SiO ₂	54.99 %	±	1.40 %	Certified value
Al ₂ O ₃	13.67 %	±	0.62 %	
Fe ₂ O ₃	12.4 %	±	0.4 %	
Na ₂ O	2.04 %	±	0.09 %	
CaO	6.20 %	±	0.20 %	
MnO	0.12 %	±	0.01 %	
MgO	7.80 %	±	0.12 %	
K ₂ O	0.37 %	±	0.02 %	
TiO ₂	1.13 %	±	0.12 %	
Total S	0.62 %	±	0.02 %	

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:

May 27th, 2025

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-2403 was prepared from ore sourced at Barrick Gold Corporation's Veladero Mine in Argentina.

COMMITTED TO EXCELLENCE

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The alteration pattern reflects characteristics typical of high-sulphidation epithermal systems, beginning with a central silicified zone that transitions outward into silica-alunite and subsequently into argillic alteration zones. Gold mineralization is primarily confined to the silicified core, which comprises silica, hematite, goethite, and jarosite. Sulphide minerals are present only in trace amounts, typically less than one percent.

The dominant lithologies include hydrothermal breccias, felsic tuffs, pyroclastic breccias, and felsic to intermediate tuffs. Gold introduction occurred after key geological events such as the diatreme eruption, acid leaching, and the main phases of silicification and fracturing. This mineralization phase either coincided with or followed closely after the hypogene deposition of iron oxides and jarosite. The key factors controlling gold deposition include structurally generated open spaces (such as fracture zones and structural intersections), the nature of the host rocks, degree of brecciation and alteration, and stratigraphic elevation.

Specific Gravity of this material was analyzed by 4 labs with **Provisional mean of 2.9 +/- 1.5**.

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 5 days in a double-cone mixer. Splits were taken and submitted to 18 commercial and mine laboratories for round-robin assaying.

Assay Procedures:

Au:	Fire assay, AA or ICP finish.
Major and Minor Base Metals:	4-acid digestion and Aqua regia digestion instrumental finish
Major Oxides	Fusion, XRF finish

Statistical Procedures:

Final limits were calculated by first assessing whether the data fell within the expected variance range for comparable methods used by reputable laboratories. Data from any one laboratory was removed from further calculations when the means of all analyses from that laboratory failed at 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: Three samples, 300g each of homogenized material, were randomly collected and **were** re-screened using a testing sieve. Based on CDN's screening test, the oversize material in this standard was approximately 1.5%.

Homogeneity Test:

Ten samples were randomly selected from across the batch and submitted to an independent laboratory accredited to the ISO/IEC 17025 standard, which specifies general requirements for the competence of testing and calibration laboratories. The analytical results provided by this laboratory were subsequently evaluated by CDN using statistical methods to assess homogeneity.

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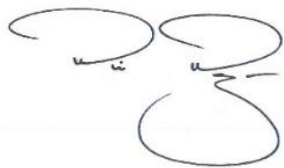


The assay data were analyzed by calculating the mean, standard deviation, and relative standard deviation (%RSD). Following the methodology outlined in Thompson, M. (Ed.) (2008), Test for 'Sufficient Homogeneity' in a Reference Material, Analytical Methods Committee, AMCTB 17A, ISSN 1757-5958, the results confirm that material CDN-ME-2403 meets the criteria for statistical homogeneity (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., FGC

Geochemist



Dr. Barry Smee, PhD, FGC

APPENDIX I: Results from round-robin assaying:

	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	Lab 16	Lab 17	Lab 18
ME-2403	Au by Fire Assay, ICP or AA finish																	
	0.330	0.269	0.30	-	0.282	0.289	0.289	0.33	0.30	0.27	0.38	0.283	0.292	0.282	0.24	0.308	0.31	0.293
	0.332	0.287	0.28	-	0.257	0.299	0.310	0.33	0.28	0.28	0.30	0.281	0.292	0.286	0.29	0.317	0.27	0.297
	0.329	0.291	0.28	-	0.251	0.293	0.284	0.33	0.28	0.26	0.31	0.284	0.272	0.283	0.29	0.319	0.25	0.334
	0.311	0.287	0.28	-	0.278	0.290	0.288	0.34	0.30	0.27	0.32	0.272	0.264	0.286	0.31	0.309	0.27	0.292
	0.318	0.318	0.28	-	0.257	0.299	0.274	0.33	0.29	0.27	0.28	0.286	0.300	0.285	0.30	0.300	0.29	0.303
	0.320	0.283	0.28	-	0.272	0.307	0.301	0.33	0.28	0.26	0.28	0.292	0.284	0.288	0.30	0.339	0.29	0.294
	0.339	0.298	0.30	-	0.274	0.290	0.278	0.32	0.28	0.27	0.29	0.307	0.280	0.282	0.29	0.303	0.29	0.303
	0.314	0.290	0.28	-	0.283	0.304	0.273	0.32	0.28	0.27	0.35	0.313	0.283	0.286	0.30	0.333	0.29	0.305
Mean	0.324	0.290	0.29	-	0.269	0.296	0.287	0.33	0.29	0.27	0.31	0.290	0.283	0.285	0.29	0.316	0.28	0.303
Std. Devn.	0.01	0.01	0.01	-	0.01	0.01	0.01	0.01	0.01	0.00	0.04	0.01	0.01	0.00	0.02	0.01	0.02	0.01
% RSD	3.00	4.79	3.25	-	4.64	2.32	4.53	1.95	3.20	1.78	11.29	4.75	4.09	0.79	7.37	4.47	6.49	4.51
Cu (%) by 4 Acid digestion Instrumental finish																		
ME-2403	0.308	0.320	-	0.311	-	-	0.335	-	-	0.317	-	0.317	-	0.321	-	-	-	0.310
	0.308	0.311	-	0.310	-	-	0.348	-	-	0.319	-	0.312	-	0.320	-	-	-	0.310
	0.304	0.302	-	0.312	-	-	0.339	-	-	0.317	-	0.319	-	0.322	-	-	-	0.313
	0.308	0.296	-	0.314	-	-	0.333	-	-	0.315	-	0.312	-	0.321	-	-	-	0.311
	0.309	0.293	-	0.313	-	-	0.328	-	-	0.315	-	0.316	-	0.322	-	-	-	0.314
	0.308	0.294	-	0.311	-	-	0.333	-	-	0.314	-	0.316	-	0.321	-	-	-	0.319
	0.307	0.299	-	0.310	-	-	0.336	-	-	0.319	-	0.312	-	0.322	-	-	-	0.316
	0.309	0.291	-	0.308	-	-	0.341	-	-	0.315	-	0.310	-	0.322	-	-	-	0.316
Mean	0.308	0.301	-	0.311	-	-	0.337	-	-	0.317	-	0.314	-	0.321	-	-	-	0.314
Std. Devn.	0.00	0.01	-	0.00	-	-	0.01	-	-	0.00	-	0.00	-	0.00	-	-	-	0.00
% RSD	0.55	3.30	-	0.63	-	-	1.75	-	-	0.59	-	0.97	-	0.16	-	-	-	1.03
Mo (ppm) by 4 Acid digestion Instrumental finish																		
ME-2403	22	27.1	-	-	-	-	24.39	-	-	24.20	-	24	-	23.34	-	-	-	25.0
	21	25.6	-	-	-	-	25.89	-	-	24.58	-	23	-	23.91	-	-	-	24.6
	21	25.2	-	-	-	-	25.03	-	-	24.01	-	24	-	23.18	-	-	-	24.1
	22	24.4	-	-	-	-	24.33	-	-	22.28	-	24	-	23.01	-	-	-	25.4
	22	23.7	-	-	-	-	23.37	-	-	22.47	-	24	-	23.77	-	-	-	24.4
	22	24.2	-	-	-	-	23.43	-	-	23.10	-	25	-	23.36	-	-	-	24.6
	22	24.2	-	-	-	-	24.14	-	-	24.92	-	24	-	23.67	-	-	-	24.4
	21	24.8	-	-	-	-	24.37	-	-	24.83	-	23	-	23.14	-	-	-	25.2
Mean	22	24.9	-	-	-	-	24.37	-	-	23.80	-	24	-	23.42	-	-	-	24.7
Std. Devn.	0.52	1.08	-	-	-	-	0.82	-	-	1.05	-	0.64	-	0.32	-	-	-	0.45
% RSD	2.39	4.32	-	-	-	-	3.36	-	-	4.41	-	2.68	-	1.38	-	-	-	1.80

APPENDIX I: Results from round-robin assaying-Continue:

Pb (ppm) by 4 Acid digestion Instrumental finish																		
ME-2403	187	188.7	-	-	198.3	-	184.1	-	-	181.25	-	186	-	192.45	-	-	-	193
	185	196.4	-	-	193.3	-	192.1	-	-	188.47	-	187	-	192.21	-	-	-	194
	181	195.9	-	-	201.2	-	188.8	-	-	184.83	-	194	-	193.19	-	-	-	193
	180	201.2	-	-	194.4	-	185.4	-	-	180.90	-	192	-	198.58	-	-	-	193
	183	195.9	-	-	205.8	-	181.2	-	-	179.04	-	196	-	194.80	-	-	-	194
	184	199.0	-	-	203.0	-	185.0	-	-	180.64	-	195	-	199.12	-	-	-	193
	186	196.7	-	-	196.1	-	186.7	-	-	186.13	-	189	-	199.92	-	-	-	194
	186	191.8	-	-	202.0	-	192.8	-	-	184.15	-	188	-	195.59	-	-	-	195
Mean	184	195.7	-	-	199.3	-	187.0	-	-	183.18	-	191	-	195.73	-	-	-	194
Std. Devn.	2.51	3.91	-	-	4.45	-	3.99	-	-	3.22	-	3.87	-	3.11	-	-	-	0.74
% RSD	1.36	2.00	-	-	2.23	-	2.14	-	-	1.76	-	2.03	-	1.59	-	-	-	0.38
Zn (ppm) by 4 Acid digestion Instrumental finish																		
ME-2403	541	520	-	-	557.3	-	523.00	-	-	506.57	-	570	-	534.52	-	-	-	532
	533	535	-	-	572.5	-	520.72	-	-	510.29	-	545	-	533.82	-	-	-	537
	531	534	-	-	545.6	-	508.90	-	-	516.97	-	564	-	534.34	-	-	-	528
	559	522	-	-	568.4	-	505.44	-	-	508.34	-	567	-	536.56	-	-	-	532
	550	527	-	-	556.2	-	537.87	-	-	499.70	-	560	-	537.66	-	-	-	530
	541	528	-	-	551.5	-	520.89	-	-	513.54	-	561	-	538.52	-	-	-	539
	544	540	-	-	566.7	-	523.11	-	-	504.58	-	553	-	533.00	-	-	-	541
	551	516	-	-	555.7	-	-	-	-	503.76	-	546	-	535.21	-	-	-	534
Mean	544	528	-	-	559.2	-	519.99	-	-	507.97	-	558	-	535.45	-	-	-	534
Std. Devn.	9.39	8.22	-	-	9.16	-	10.60	-	-	5.57	-	9.35	-	1.94	-	-	-	4.52
% RSD	1.73	1.56	-	-	1.64	-	2.04	-	-	1.10	-	1.67	-	0.36	-	-	-	0.85
Ni (%) by 4 Acid digestion Instrumental finish																		
ME-2403	0.125	0.1269	-	-	-	-	0.117	-	-	0.130	-	0.129	-	0.122	-	-	-	0.124
	0.125	0.1275	-	-	-	-	0.121	-	-	0.137	-	0.125	-	0.121	-	-	-	0.124
	0.126	0.1291	-	-	-	-	0.120	-	-	0.133	-	0.133	-	0.121	-	-	-	0.124
	0.125	0.1269	-	-	-	-	0.118	-	-	0.131	-	0.130	-	0.121	-	-	-	0.125
	0.127	0.1251	-	-	-	-	0.114	-	-	0.133	-	0.132	-	0.122	-	-	-	0.125
	0.126	0.1272	-	-	-	-	0.116	-	-	0.132	-	0.133	-	0.121	-	-	-	0.124
	0.128	0.1260	-	-	-	-	0.118	-	-	0.132	-	0.131	-	0.121	-	-	-	0.123
	0.125	0.1233	-	-	-	-	0.121	-	-	0.135	-	0.128	-	0.121	-	-	-	0.123
Mean	0.126	0.1265	-	-	-	-	0.118	-	-	0.133	-	0.130	-	0.121	-	-	-	0.124
Std. Devn.	0.00	0.00	-	-	-	-	0.00	-	-	0.00	-	0.00	-	0.00	-	-	-	0.00
% RSD	0.95	1.37	-	-	-	-	1.93	-	-	1.64	-	2.08	-	0.24	-	-	-	0.44

APPENDIX I: Results from round-robin assaying-Continue:

	Lab 1	Lab 2	Lab 4	Lab 7	Lab 10	Lab 13	Lab 16
ME-2403	Ca (%) by 4 Acid digestion Instrumental finish						
	4.44	4.38	-	4.18	4.085	4.48	4.41
	4.45	4.41	-	4.35	4.193	4.44	4.50
	4.42	4.47	-	4.26	4.214	4.46	4.46
	4.43	4.45	-	4.20	4.148	4.39	4.46
	4.46	4.43	-	4.11	4.016	4.47	4.46
	4.42	4.47	-	4.21	4.181	4.45	4.45
	4.43	4.50	-	4.20	4.293	4.47	4.48
	4.42	4.42	-	4.32	4.212	4.46	4.49
Mean	4.43	4.44	-	4.23	4.17	4.45	4.46
Std. Devn.	0.02	0.04	-	0.08	0.09	0.03	0.03
% RSD	0.34	0.88	-	1.84	2.04	0.62	0.62
Co (ppm) by 4 Acid digestion Instrumental finish							
ME-2403	79	76.5	64	76.10	74.37	75.28	79.6
	79	76.8	62	77.33	78.11	75.44	78.8
	77	77.9	66	75.92	76.40	76.04	78.9
	79	76.7	67	74.84	74.16	76.02	79.2
	80	75.1	68	72.93	72.14	75.17	78.1
	80	77.4	68	74.46	75.65	75.32	78.4
	80	77.7	67	76.25	79.68	75.41	77.8
	79	74.9	64	76.97	75.76	75.04	77.8
Mean	79	76.6	66	75.6	75.78	75.47	78.6
Std. Devn.	0.99	1.12	2.19	1.45	2.36	0.37	0.66
% RSD	1.25	1.46	3.33	1.91	3.11	0.49	0.84
Fe (%) by 4 Acid digestion Instrumental finish							
ME-2403	8.54	8.72	7.509	8.37	-	8.25	8.58
	8.53	8.75	7.614	8.70	-	8.27	8.74
	8.32	8.92	7.525	8.50	-	8.22	8.69
	8.45	8.82	7.573	8.39	-	8.28	8.71
	8.42	8.79	7.508	8.16	-	8.29	8.67
	8.42	8.86	7.546	8.42	-	8.25	8.63
	8.38	8.93	7.623	8.41	-	8.26	8.68
	8.36	8.78	7.581	8.59	-	8.24	8.65
Mean	8.43	8.82	7.560	8.44	-	8.26	8.67
Std. Devn.	0.08	0.08	0.05	0.16	-	0.02	0.05
% RSD	0.92	0.87	0.60	1.90	-	0.29	0.57

APPENDIX I: Results from round-robin assaying-Continue:

	Lab 1	Lab 2	Lab 4	Lab 7	Lab 10	Lab 13	Lab 16
ME-2403	Na (%) by 4 Acid digestion Instrumental finish						
	1.52	1.490	-	1.45	1.89	1.508	1.51
	1.53	1.493	-	1.47	1.95	1.506	1.52
	1.53	1.509	-	1.45	1.92	1.508	1.51
	1.53	1.502	-	1.41	1.90	1.505	1.51
	1.54	1.495	-	1.46	1.82	1.511	1.51
	1.55	1.505	-	1.43	1.92	1.508	1.52
	1.53	1.523	-	1.42	1.97	1.513	1.52
	1.52	1.484	-	1.41	1.91	1.512	1.52
Mean	1.53	1.500	-	1.44	1.91	1.509	1.52
Std. Devn.	0.01	0.01	-	0.02	0.05	0.00	0.01
% RSD	0.66	0.82	-	1.61	2.43	0.17	0.35
K (%) by 4 Acid digestion Instrumental finish							
ME-2403	0.31	0.313	-	0.30	0.38	0.315	0.32
	0.31	0.315	-	0.32	0.39	0.315	0.32
	0.31	0.318	-	0.31	0.38	0.316	0.33
	0.31	0.317	-	0.30	0.39	0.316	0.31
	0.31	0.315	-	0.30	0.37	0.316	0.32
	0.31	0.319	-	0.30	0.37	0.316	0.32
	0.31	0.322	-	0.31	0.37	0.316	0.33
	0.32	0.313	-	0.31	0.36	0.315	0.33
Mean	0.31	0.317	-	0.31	0.38	0.32	0.32
Std. Devn.	0.00	0.00	-	0.01	0.01	0.00	0.01
% RSD	1.14	0.92	-	2.43	2.78	0.17	2.19
Mg (%) by 4 Acid digestion Instrumental finish							
ME-2403	4.67	4.630	-	4.495	4.49	4.629	4.61
	4.67	4.666	-	4.713	4.66	4.631	4.66
	4.63	4.732	-	4.623	4.63	4.632	4.64
	4.64	4.697	-	4.572	4.55	4.628	4.58
	4.65	4.694	-	4.612	4.42	4.634	4.59
	4.64	4.741	-	4.566	4.62	4.623	4.62
	4.64	4.765	-	4.447	4.78	4.636	4.67
	4.67	4.678	-	4.549	4.63	4.630	4.73
Mean	4.65	4.700	-	4.572	4.6	4.630	4.64
Std. Devn.	0.02	0.04	-	0.08	0.11	0.00	0.05
% RSD	0.37	0.93	-	1.77	2.41	0.09	1.05
Mn (ppm) by 4 Acid digestion Instrumental finish							
ME-2403	915	895	-	871.7	-	888	913
	913	901	-	909.8	-	889	923
	914	912	-	893.8	-	891	914
	923	904	-	876.3	-	887	917
	910	902	-	901.1	-	892	914
	918	910	-	884.7	-	888	910
	914	917	-	880.8	-	892	922
	920	895	-	897.8	-	891	918
Mean	916	905	-	889.5	-	890	916
Std. Devn.	4.19	7.95	-	13.22	-	1.73	4.50
% RSD	0.46	0.88	-	1.49	-	0.19	0.49

APPENDIX I: Results from round-robin assaying-Continue:

ME-2403																		
Mean																		
Std. Devn.																		
% RSD																		

S (%) by 4 Acid digestion Instrumental finish																		
ME-2403	541	520	-	-	557.3	-	523.00	-	-	506.57	-	570	-	534.52	-	-	-	532
	533	535	-	-	572.5	-	520.72	-	-	510.29	-	545	-	533.82	-	-	-	537
	531	534	-	-	545.6	-	508.90	-	-	516.97	-	564	-	534.34	-	-	-	528
	559	522	-	-	568.4	-	505.44	-	-	508.34	-	567	-	536.56	-	-	-	532
	550	527	-	-	556.2	-	537.87	-	-	499.70	-	560	-	537.66	-	-	-	530
	541	528	-	-	551.5	-	520.89	-	-	513.54	-	561	-	538.52	-	-	-	539
	544	540	-	-	566.7	-	523.11	-	-	504.58	-	553	-	533.00	-	-	-	541
	551	516	-	-	555.7	-	-	-	-	503.76	-	546	-	535.21	-	-	-	534
Mean	544	528	-	-	559.2	-	519.99	-	-	507.97	-	558	-	535.45	-	-	-	534
Std. Devn.	9.39	8.22	-	-	9.16	-	10.60	-	-	5.57	-	9.35	-	1.94	-	-	-	4.52
% RSD	1.73	1.56	-	-	1.64	-	2.04	-	-	1.10	-	1.67	-	0.36	-	-	-	0.85
Sr (ppm) by 4 Acid digestion Instrumental finish																		
ME-2403	257	259.17	-	259.91	264.97	264.72	267	257	259.17	-	259.91	264.97	264.72	267	257	259.17	-	259.91
	254	259.27	-	265.89	270.84	264.05	268	254	259.27	-	265.89	270.84	264.05	268	254	259.27	-	265.89
	258	268.19	-	260.90	273.14	265.71	270	258	268.19	-	260.90	273.14	265.71	270	258	268.19	-	260.90
	260	261.46	-	257.68	266.15	264.27	268	260	261.46	-	257.68	266.15	264.27	268	260	261.46	-	257.68
	254	259.08	-	248.38	263.75	263.24	270	254	259.08	-	248.38	263.75	263.24	270	254	259.08	-	248.38
	256	258.23	-	257.28	273.52	264.87	271	256	258.23	-	257.28	273.52	264.87	271	256	258.23	-	257.28
	258	261.50	-	260.28	283.21	268.43	274	258	261.50	-	260.28	283.21	268.43	274	258	261.50	-	260.28
	258	256.16	-	263.95	273.17	267.44	275	258	256.16	-	263.95	273.17	267.44	275	258	256.16	-	263.95
	257	260.38	-	259.28	271.09	265.34	270	257	260.38	-	259.28	271.09	265.34	270	257	260.38	-	259.28
Mean	257	260.38	-	259.28	271.09	265.34	270	257	260.38	-	259.28	271.09	265.34	270	257	260.38	-	259.28
Std. Devn.	2.10	3.59	-	5.28	6.29	1.77	2.88	2.10	3.59	-	5.28	6.29	1.77	2.88	2.10	3.59	-	5.28
% RSD	0.82	1.38	-	2.04	2.32	0.67	1.06	0.82	1.38	-	2.04	2.32	0.67	1.06	0.82	1.38	-	2.04

APPENDIX I: Results from round-robin assaying-Continue:

	Lab 1	Lab 2	Lab 6	Lab 7	Lab 10	Lab 11	Lab 16
ME-2403	Total S (%) LECO						
	-	0.63	0.62	0.62	0.618	0.62	0.69
	-	0.64	0.62	0.62	0.628	0.62	0.68
	-	0.63	0.63	0.60	0.628	0.62	0.69
	-	0.62	0.67	0.60	0.630	0.62	0.69
	-	0.61	0.66	0.63	0.618	0.61	0.70
	-	0.63	0.64	0.61	0.632	0.61	0.70
	-	0.63	0.64	0.63	0.634	0.62	0.70
	-	0.62	0.64	0.61	0.628	0.62	0.70
Mean	-	0.63	0.64	0.62	0.63	0.62	0.69
Std. Devn.	-	0.01	0.02	0.01	0.01	0.00	0.01
% RSD	-	1.46	2.77	1.76	0.95	0.57	1.07
SiO2 (%) XRF							
ME-2403	53.78	54.95	-	55.0	55.68	55.16	-
	53.86	55.26	-	55.4	57.15	54.94	-
	53.82	55.24	-	55.4	57.63	55.00	-
	53.80	55.22	-	55.4	55.51	55.22	-
	53.91	54.97	-	55.7	55.29	54.84	-
	53.90	55.14	-	56.0	56.76	54.90	-
	53.97	55.12	-	55.2	58.19	54.98	-
	53.84	55.20	-	55.9	55.20	55.06	-
Mean	53.86	55.14	-	55.5	56.43	55.01	-
Std. Devn.	0.06	0.12	-	0.34	1.16	0.13	-
% RSD	0.12	0.22	-	0.62	2.05	0.23	-
Al2O3 (%) XRF							
ME-2403	14.02	13.39	-	13.7	13.77	13.38	-
	14.09	13.43	-	13.6	14.12	13.31	-
	14.08	13.47	-	13.5	14.33	13.34	-
	14.13	13.43	-	13.5	13.92	13.38	-
	14.12	13.37	-	13.7	13.69	13.33	-
	14.07	13.39	-	13.8	13.95	13.31	-
	14.05	13.46	-	13.4	14.36	13.37	-
	14.06	13.46	-	13.8	13.73	13.29	-
Mean	14.08	13.43	-	13.6	13.98	13.34	-
Std. Devn.	0.04	0.04	-	0.15	0.26	0.03	-
% RSD	0.26	0.28	-	1.09	1.88	0.26	-
CaO (%) XRF							
ME-2403	6.16	6.19	-	6.32	5.886	6.18	-
	6.18	6.21	-	6.34	5.996	6.16	-
	6.18	6.21	-	6.36	6.096	6.16	-
	6.19	6.19	-	6.40	5.956	6.17	-
	6.18	6.22	-	6.39	5.936	6.14	-
	6.18	6.21	-	6.45	6.126	6.16	-
	6.18	6.20	-	6.27	6.296	6.21	-
	6.18	6.21	-	6.38	6.026	6.19	-
Mean	6.18	6.21	-	6.36	6.039	6.17	-
Std. Devn.	0.01	0.01	-	0.05	0.13	0.02	-
% RSD	0.14	0.17	-	0.86	2.16	0.35	-

APPENDIX I: Results from round-robin assaying-Continue:

	Lab 1	Lab 2	Lab 6	Lab 7	Lab 10	Lab 11	Lab 16
ME-2403	Fe2O3 (%) XRF						
	12.19	12.53	-	12.4	11.926	12.37	-
	12.21	12.51	-	12.5	12.191	12.33	-
	12.18	12.51	-	12.6	12.355	12.36	-
	12.19	12.46	-	12.7	11.762	12.36	-
	12.19	12.54	-	12.7	11.844	12.38	-
	12.20	12.47	-	12.7	12.264	12.37	-
	12.17	12.49	-	12.4	12.774	12.34	-
	12.17	12.50	-	12.7	11.990	12.35	-
Mean	12.19	12.50	-	12.6	12.138	12.36	-
Std. Devn.	0.01	0.03	-	0.14	0.33	0.02	-
% RSD	0.11	0.22	-	1.08	2.72	0.14	-
K2O (%) XRF							
ME-2403	0.36	0.38	-	0.36	0.48	0.38	-
	0.36	0.38	-	0.37	0.49	0.38	-
	0.36	0.39	-	0.38	0.48	0.38	-
	0.36	0.39	-	0.38	0.49	0.38	-
	0.36	0.38	-	0.38	0.46	0.38	-
	0.36	0.38	-	0.38	0.47	0.38	-
	0.36	0.38	-	0.37	0.47	0.39	-
	0.36	0.39	-	0.37	0.46	0.38	-
Mean	0.36	0.38	-	0.37	0.48	0.38	-
Std. Devn.	0.00	0.01	-	0.01	0.01	0.00	-
% RSD	0.00	1.35	-	1.99	2.78	0.93	-
MgO (%) XRF							
ME-2403	7.71	7.85	-	7.72	7.98	7.82	-
	7.72	7.85	-	7.88	8.12	7.78	-
	7.72	7.86	-	7.80	8.25	7.80	-
	7.70	7.84	-	7.84	7.93	7.79	-
	7.73	7.87	-	7.86	7.96	7.79	-
	7.71	7.84	-	7.96	8.11	7.82	-
	7.74	7.85	-	7.75	7.84	7.83	-
	7.72	7.87	-	7.92	8.02	7.79	-
Mean	7.72	7.85	-	7.84	8.03	7.80	-
Std. Devn.	0.01	0.01	-	0.08	0.13	0.02	-
% RSD	0.16	0.15	-	1.04	1.62	0.23	-
MnO (%) XRF							
ME-2403	0.12	0.12	-	0.13	0.12	-	-
	0.12	0.12	-	0.12	0.13	-	-
	0.13	0.12	-	0.13	0.13	-	-
	0.12	0.12	-	0.13	0.12	-	-
	0.12	0.12	-	0.13	0.12	-	-
	0.11	0.12	-	0.13	0.12	-	-
	0.12	0.12	-	0.12	0.13	-	-
	0.12	0.12	-	0.13	0.12	-	-
Mean	0.12	0.12	-	0.13	0.12	-	-
Std. Devn.	0.01	0.00	-	0.00	0.01	-	-
% RSD	4.45	0.00	-	3.63	4.18	-	-

APPENDIX I: Results from round-robin assaying-Continue:

ME-2403	Lab 1	Lab 2	Lab 6	Lab 7	Lab 10	Lab 11	Lab 16
	Na2O (%) XRF						
	2.08	2.02	-	2.01	-	1.99	-
	2.08	2.01	-	2.06	-	1.98	-
	2.08	2.02	-	2.05	-	1.99	-
	2.11	2.02	-	2.04	-	1.99	-
	2.09	2.02	-	2.11	-	1.98	-
	2.10	2.02	-	2.10	-	1.98	-
	2.09	2.01	-	2.01	-	1.99	-
	2.09	2.03	-	2.10	-	2.00	-
Mean	2.09	2.02	-	2.06	-	1.99	-
Std. Devn.	0.01	0.01	-	0.04	-	0.01	-
% RSD							
TiO2 (%) XRF							
ME-2403	1.03	1.15	-	1.14	-	1.17	-
	1.03	1.15	-	1.18	-	1.15	-
	1.03	1.16	-	1.17	-	1.15	-
	1.03	1.14	-	1.19	-	1.16	-
	1.03	1.16	-	1.17	-	1.16	-
	1.04	1.15	-	1.19	-	1.16	-
	1.03	1.15	-	1.16	-	1.16	-
	1.03	1.15	-	1.18	-	1.15	-
Mean	1.03	1.15	-	1.17	-	1.16	-
Std. Devn.	0.00	0.01	-	0.02	-	0.01	-
% RSD	0.34	0.56	-	1.42	-	0.61	-

Notes: Highlighted assay results were removed for failing the t-test.

APPENDIX II:

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

AGAT Labs, Calgary, Canada	MSA Singida Mine
Couer Mexicana S.A de C.V Laboratorio Químico, Mexico	MSA Bulyanhulu, Tanzania
Impala Terminals, Peru	MSA Yamoussoukro Côte d'Ivoire
Intertek Perth, Australia	Newlyn Lab Services, South Africa
Intertek Mineral Tarkwa Ghana	Dallaglio Pickstone Peerless Laboratory, Zimbabwe
Jinning Testing and Inspection, Maddington, Australia	SGS Geosol Laboratories Ltd. Brazil
MSA Egypt Ltd.	SGS Lakefield, ON, Canada
MSALABS Guyana Inc.	SGS Burnaby, BC Canada
MSA Langley	Shiva Analytical India
MSA Mauritania	Skyline Assayers and Labs, Az, USA

APPENDIX III: QAQC

The table below illustrates percentages of over size (+200 mesh) material in CDN-ME-2403

Standard	Study Date	Total weight Screened (g)	Total weight Over size (g)	Percentage
ME-2403	7/2/2024	300	3.5	1.2%
	7/2/2024	300	4	1.3%
	7/2/2024	300	4.5	1.5%

APPENDIX IV: Statistics for Uncertified Elements

Analytes	Generic Method	Number of results	Mean	Standard Deviation	RSD %	Unit
Cr ₂ O ₃	Fusion	24	0.07	0.01	9	%
P ₂ O ₅		24	0.1	0.02	16	
LOI		24	0.4	0.18	42	
Ag	4 Acid digestion Instrumental finish	64	5.5	0.5	9	ppm
Al (%)		40	7.1	0.5	8	
As		40	60.4	6.9	11	
Ba		48	323.0	7.5	2	
Be		24	0.4	0.1	17	
Bi		40	3.4	0.6	17	
Cd		48	4.4	1	23	
Ce		40	13.3	1	7	
Cr		56	362.2	56.3	8	
Cs		24	0.7	0.1	10	
Ga		48	15	2	15	
La		48	6.5	1	13	
Li		48	8.4	2.2	26	
Nb		40	5	1	20	
P		32	443	34	8	
Rb		40	11	2.5	22	
Sb		48	22	6	28	
Sc		48	8.5	0.6	7	
Se		24	5	0.5	11	
Sn		24	3.7	0.6	15	
Ta		32	0.5	0.2	40	
Th		40	1.5	0.7	42	
Tl		40	0.4	0.1	15	
U		40	0.4	0.1	24	
V		48	97	7	7	
W		40	4.0	1	23	
Y		40	7.0	0.6	8	
Zr		40	50	9	19	
Al	Aqua Regia digestion- Instrumental finish	24	2.4	0.5	22	%
Ca		24	1.5	0.3	21	
Fe		32	7	0.5	6	
K		24	0.2	0.00	2	
S		24	0.6	0.02	3	
Ag		32	3.4	0.5	14	ppm
As		32	51.1	3.5	7	
Ba		24	207	20	10	
Cd		24	4.9	1.2	24	
Ce		16	7.6	0.5	6	
Co		32	67.8	4.2	6	
Cr		24	287.2	18.0	6	
Cs		16	0.6	0.1	13	
La		24	3.6	0.3	10	
Mo		24	21	0.5	2	
Pb		24	180	5	3	
Zn		24	507	14.5	3	
Ni		32	0.12	0.01	7.4	

APPENDIX V: 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 reflect consensus results from the laboratories that took part in the exercise.

Handling

Do not use the product 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.

The 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" 30g 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.