

# CDN Resource Laboratories Ltd.

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## REFERENCE MATERIAL: CDN-ME-1807

Recommended values and the “Between Lab” Two Standard Deviations

Gold	7.88 gpt	± 0.42 gpt	30 g FA, instrumental	Certified value
Gold	7.91 gpt	± 0.42 gpt	30 g FA, gravimetric	Certified value
Silver	327 ppm	± 20 ppm	4-Acid / ICP	Certified value
Silver	324 ppm	± 15 ppm	30 g FA, gravimetric	Certified value
Copper	0.200 %	± 0.006 %	4 Acid / ICP	Certified value
Lead	2.34 %	± 0.10 %	4 Acid / ICP	Certified value
Zinc	2.43 %	± 0.08 %	4 Acid / ICP	Certified value

**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.

**Note 2:** Standard CDN-ME-1807 is a high sulphide sample and has been pre-packaged in kraft bags which have been individually vacuum-sealed in nylon bags in either 60g or 100g quantities. It is available for purchase in lots of either 10 x 60g or 10 x 100g. High sulphide samples will stay valid indefinitely while vacuum sealed and should stay that way until the lab is ready to analyse the standard. After opening we cannot guarantee their accuracy for any length of time but resealing and storing in a cold dark place should reduce the oxidation rate.

**PREPARED BY:** CDN Resource Laboratories Ltd.  
**CERTIFIED BY:** Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia  
**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** September 10, 2018

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-ME-1807 was prepared by combining miscellaneous ores.

### **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 sent to 15 commercial laboratories for round robin assaying.

**Approximate chemical composition (from whole rock analysis) is as follows:**

	Percent		Percent
SiO <sub>2</sub>	53.0	Na <sub>2</sub> O	1.4
Al <sub>2</sub> O <sub>3</sub>	10.0	MgO	4.2
Fe <sub>2</sub> O <sub>3</sub>	8.8	K <sub>2</sub> O	1.8
CaO	6.7	TiO <sub>2</sub>	0.3
MnO	0.1	LOI	6.0
S	4.8	C	1.4

**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 data base. 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.

**Assay Procedures:**

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

**Results from round-robin assaying:**

Fire Assay Instrumental	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	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
ME-1807-1	7.96	7.86	8.06	6.97	7.67		7.85	7.72	8.05	7.69	7.65	8.11	7.87	7.67	7.78
ME-1807-2	7.67	7.82	7.87	6.94	7.70		8.06	7.98	8.74	7.48	7.79	7.90	8.23	7.62	7.78
ME-1807-3	8.06	8.24	7.73	6.94	7.76		8.19	7.87	7.92	7.64	7.92	7.81	8.02	7.57	7.94
ME-1807-4	8.06	7.88	7.96	7.03	7.88		8.19	7.98	8.15	7.65	7.81	7.97	8.16	7.71	7.89
ME-1807-5	8.07	7.62	7.57	7.03	8.01		8.23	7.70	8.38	7.50	7.97	8.01	8.01	7.70	8.12
ME-1807-6	8.45	7.85	7.96	7.07	7.92		8.28	7.72	8.15	7.48	7.76	7.84	8.06	7.59	7.77
ME-1807-7	7.51	7.44	7.54	6.93	7.81		7.93	7.75	8.41	7.49	8.01	7.66	8.13	7.68	8.17
ME-1807-8	7.92	7.94	7.61	7.03	8.03		7.85	7.71	8.33	7.42	8.23	7.83	8.30	7.95	8.08
ME-1807-9	7.94	7.71	7.78	6.99	7.74		8.19	7.98	8.56	7.49	8.33	7.90	7.95	7.89	8.02
ME-1807-10	7.83	7.78	7.91	7.02	7.97		8.13	7.92	7.79	7.53	7.91	8.10	8.02	7.73	8.41
Mean	7.95	7.81	7.80	7.00	7.85		8.09	7.83	8.25	7.54	7.94	7.91	8.08	7.71	8.00
Std. Dev.	0.253	0.209	0.182	0.048	0.131		0.157	0.124	0.291	0.089	0.211	0.140	0.130	0.123	0.206
% RSD	3.18	2.68	2.33	0.69	1.67		1.95	1.58	3.53	1.19	2.66	1.77	1.61	1.59	2.58

Gravimetric	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	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
ME-1807-1	7.84	7.80	7.48		7.91	7.92	7.79	7.95		7.52	7.67	7.93	7.97	7.84	8.26
ME-1807-2	8.43	7.71	7.84		7.97	7.82	7.85	8.00		7.67	7.86	7.81	8.06	7.79	8.25
ME-1807-3	8.59	7.60	8.13		7.76	8.37	8.03	7.85		7.65	8.14	7.70	7.39	8.09	8.38
ME-1807-4	8.15	7.98	7.65		7.93	7.89	7.97	7.95		7.77	7.98	8.08	7.86	7.74	8.06
ME-1807-5	8.33	7.78	8.01		7.73	7.75	7.89	7.90		7.81	8.14	7.81	7.99	7.93	7.92
ME-1807-6	8.13	7.63	8.21		7.92	7.99	7.97	8.05		7.71	8.13	7.71	7.74	7.69	8.11
ME-1807-7	8.08	7.58	7.69		7.75	7.61	8.01	7.90		7.83	7.80	7.76	7.36	8.19	8.36
ME-1807-8	8.30	7.75	7.71		8.07	7.68	8.23	7.90		7.66	7.84	8.05	7.91	7.50	8.23
ME-1807-9	8.23	7.98	8.39		8.14	7.51	7.94	7.90		7.59	7.49	8.11	7.38	7.77	7.90
ME-1807-10	8.41	7.81	7.71		7.90	7.23	8.05	7.95		7.83	8.10	7.95	7.65	8.30	8.13
Mean	8.25	7.76	7.88		7.91	7.78	7.97	7.94		7.70	7.91	7.89	7.73	7.88	8.16
Std. Dev.	0.212	0.141	0.290		0.135	0.306	0.122	0.058		0.106	0.223	0.154	0.272	0.245	0.167
% RSD	2.57	1.82	3.68		1.70	3.93	1.53	0.73		1.37	2.82	1.95	3.52	3.11	2.04

Instrumental 4 Acid	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
	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t
ME-1807-1	332	335	318	314	348		314		335	305	316.1	337	318	320	336
ME-1807-2	331	336	323	333	355		317		339	316	323.6	336	320	310	332
ME-1807-3	333	334	331	336	343		318		345	325	330.2	334	328	300	330
ME-1807-4	336	333	316	329	357		313		347	309	325.8	336	320	310	332
ME-1807-5	334	333	328	329	352		318		344	313	320.8	334	328	300	339
ME-1807-6	337	335	323	336	359		321		343	314	331.3	332	322	320	333
ME-1807-7	332	342	313	318	354		318		341	314	323.2	338	321	310	332

ME-1807-8	332	327	313	329	340		330		334	319	326.7	337	319	310	333
ME-1807-9	343	341	321	310	338		322		342	309	321.7	342	323	310	332
ME-1807-10	336	328	321	310	351		321		340	308	319.2	336	325	310	334
Mean	335	334	321	324	350		319		341	313	323.9	336	322	310	333
Std. Dev.	3.596	4.766	5.945	10.384	7.243		4.780		4.163	5.884	4.759	2.700	3.565	6.667	2.541
% RSD	1.07	1.43	1.85	3.20	2.07		1.50		1.22	1.88	1.47	0.80	1.11	2.15	0.76
Gravimetric	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
	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t
ME-1807-1	317	323	322		321	322	314	334		321	321.3	328	304	327	321
ME-1807-2	332	330	360		322	324	336	334		327	324.5	324	313	330	325
ME-1807-3	326	323			323	328	319	336		330	326.0	331	308	329	330
ME-1807-4	296	321	332		318	319	320	337		321	333.5	325	307	344	318
ME-1807-5	315	316	329		320	313	313	335		325	328.2	326	315	323	323
ME-1807-6	326	331	333		316	320	321	338		322	329.8	333	305	324	320
ME-1807-7	305	340	316		323	318	319	335		324	327.4	333	309	336	313
ME-1807-8	309	331	316		315	327	331	335		322	324.7	325	310	325	327
ME-1807-9	312	334	319		320	333	314	335		334	329.1	326	311	311	320
ME-1807-10	335	331	323		319	330	319	335		327	330.6	327	305	321	313
Mean	317	328	328		320	323	321	335		325	327.5	328	309	327	321
Std. Dev.	12.419	7.102	13.673		2.751	6.150	7.442	1.265		4.270	3.520	3.272	3.622	8.844	5.538
% RSD	3.91	2.17	4.17		0.86	1.90	2.32	0.38		1.31	1.07	1.00	1.17	2.70	1.73

Instrumental 4 Acid	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
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-1807-1	0.198	0.201	0.199	0.20	0.190	0.20	0.202	0.202	0.200	0.202	0.185	0.199	0.200	0.19	0.200
ME-1807-2	0.197	0.198	0.201	0.20	0.195	0.20	0.200	0.202	0.203	0.202	0.197	0.199	0.199	0.20	0.197
ME-1807-3	0.199	0.201	0.206	0.20	0.192	0.21	0.197	0.203	0.207	0.206	0.202	0.208	0.202	0.19	0.198
ME-1807-4	0.199	0.200	0.198	0.20	0.193	0.21	0.196	0.205	0.204	0.199	0.196	0.199	0.206	0.19	0.198
ME-1807-5	0.196	0.200	0.203	0.20	0.188	0.20	0.201	0.206	0.202	0.202	0.202	0.200	0.209	0.19	0.199
ME-1807-6	0.199	0.203	0.202	0.20	0.198	0.21	0.199	0.205	0.199	0.203	0.201	0.201	0.206	0.20	0.198
ME-1807-7	0.200	0.205	0.194	0.20	0.194	0.21	0.200	0.200	0.198	0.205	0.198	0.200	0.203	0.20	0.198
ME-1807-8	0.194	0.200	0.197	0.20	0.200	0.21	0.202	0.202	0.203	0.202	0.196	0.199	0.205	0.20	0.197
ME-1807-9	0.202	0.206	0.199	0.20	0.194	0.20	0.203	0.206	0.202	0.198	0.196	0.203	0.201	0.19	0.198
ME-1807-10	0.198	0.197	0.197	0.20	0.196	0.21	0.199	0.205	0.199	0.197	0.197	0.199	0.203	0.18	0.198
Mean	0.198	0.201	0.200	0.20	0.194	0.21	0.200	0.204	0.202	0.202	0.197	0.201	0.203	0.19	0.198
Std. Dev.	0.002	0.003	0.003	0.000	0.004	0.005	0.002	0.002	0.003	0.003	0.005	0.003	0.003	0.007	0.001
% RSD	1.11	1.42	1.74	0.00	1.83	2.51	1.12	1.01	1.40	1.43	2.52	1.43	1.52	3.50	0.44
Instrumental 4 Acid	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
	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb
ME-1807-1	2.34	2.39	2.33	2.46	2.30	2.44	2.29	2.30	2.37	2.25	2.21	2.33	2.42	2.36	2.35
ME-1807-2	2.34	2.34	2.33	2.41	2.37	2.46	2.30	2.34	2.40	2.29	2.27	2.31	2.48	2.38	2.34
ME-1807-3	2.35	2.35	2.38	2.42	2.38	2.43	2.24	2.33	2.39	2.35	2.31	2.34	2.31	2.32	2.34
ME-1807-4	2.35	2.35	2.29	2.43	2.39	2.45	2.26	2.32	2.40	2.28	2.27	2.33	2.40	2.31	2.37
ME-1807-5	2.34	2.35	2.36	2.45	2.40	2.43	2.29	2.34	2.38	2.28	2.26	2.30	2.50	2.35	2.35
ME-1807-6	2.35	2.38	2.34	2.41	2.41	2.41	2.28	2.33	2.37	2.31	2.31	2.34	2.29	2.31	2.34
ME-1807-7	2.35	2.39	2.26	2.41	2.40	2.45	2.25	2.34	2.36	2.30	2.29	2.34	2.53	2.34	2.37
ME-1807-8	2.29	2.33	2.28	2.40	2.39	2.42	2.35	2.35	2.39	2.29	2.28	2.31	2.38	2.34	2.33
ME-1807-9	2.38	2.41	2.31	2.39	2.35	2.41	2.33	2.32	2.38	2.27	2.25	2.35	2.25	2.32	2.34
ME-1807-10	2.34	2.28	2.28	2.41	2.42	2.41	2.27	2.34	2.41	2.22	2.28	2.32	2.40	2.34	2.34
Mean	2.34	2.36	2.32	2.42	2.38	2.43	2.29	2.33	2.38	2.28	2.27	2.33	2.40	2.34	2.35
Std. Dev.	0.022	0.037	0.039	0.022	0.035	0.019	0.034	0.014	0.019	0.035	0.030	0.016	0.092	0.023	0.013
% RSD	0.94	1.59	1.67	0.90	1.46	0.76	1.50	0.62	0.79	1.52	1.30	0.70	3.85	0.97	0.57

Instrumental 4 Acid	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	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn
ME-1807-1	2.43	2.47	2.46	2.41	2.36	2.46	2.43	2.44	2.51	2.38	2.30	2.38	2.48	2.41	2.42
ME-1807-2	2.41	2.44	2.47	2.42	2.37	2.50	2.42	2.47	2.60	2.45	2.42	2.40	2.33	2.43	2.40
ME-1807-3	2.44	2.47	2.55	2.41	2.37	2.45	2.36	2.46	2.58	2.52	2.50	2.43	2.35	2.36	2.40
ME-1807-4	2.43	2.46	2.42	2.43	2.37	2.47	2.35	2.44	2.52	2.45	2.44	2.44	2.41	2.32	2.42
ME-1807-5	2.41	2.47	2.51	2.43	2.37	2.46	2.41	2.47	2.52	2.43	2.44	2.40	2.40	2.41	2.42
ME-1807-6	2.42	2.51	2.52	2.43	2.43	2.45	2.43	2.43	2.53	2.45	2.48	2.39	2.42	2.33	2.41
ME-1807-7	2.45	2.52	2.37	2.43	2.41	2.45	2.43	2.46	2.49	2.45	2.45	2.40	2.41	2.31	2.43
ME-1807-8	2.36	2.45	2.40	2.42	2.40	2.42	2.45	2.48	2.57	2.42	2.42	2.44	2.40	2.40	2.39
ME-1807-9	2.46	2.53	2.46	2.44	2.44	2.44	2.44	2.46	2.50	2.45	2.42	2.41	2.45	2.32	2.42
ME-1807-10	2.41	2.41	2.40	2.44	2.42	2.43	2.45	2.46	2.56	2.40	2.42	2.43	2.40	2.39	2.40
Mean	2.42	2.47	2.46	2.43	2.39	2.45	2.42	2.46	2.54	2.44	2.43	2.41	2.41	2.37	2.41
Std. Dev.	0.028	0.037	0.059	0.011	0.030	0.022	0.035	0.016	0.038	0.037	0.052	0.021	0.043	0.045	0.013
% RSD	1.148	1.514	2.391	0.443	1.233	0.902	1.447	0.638	1.482	1.533	2.139	0.891	1.788	1.907	0.534

**Notes:**

- Labs 4 and 9 did not report Au and Ag assayed by fire assay with gravimetric finish.
- Lab 6 did not report Au and Ag assayed by 4 Acid digestion with instrumental finish methods.
- Au results by Instrumental finish from Lab 4 were removed for failing the t test.
- Ag results assayed by 4 Acid digestion method from Lab 5 were removed for failing the t test.
- Cu results from Lab 6 were removed for failing the t test.

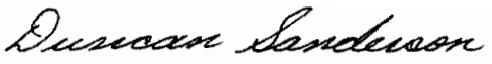
**Participating Laboratories:** (not in same order as table of assays)

Argetest, Ankara, Turkey	Intertek, Genalysis, Western Australia
ALS Canada, North Vancouver, BC, Canada	MS Analytical, Langley, BC, Canada
ALS, Loughrea, Ireland	SGS, Vancouver, BC, Canada
ALS, Lima, Peru	SGS, Lima, Peru
ALS, Perth Australia	SGS, Lakefield, Ontario, Canada
Bureau Veritas, Perth, Australia	Skyline Assayers & Laboratories, AZ, USA
Bureau Veritas, Vancouver, BC, Canada	TSL Laboratories Ltd., Saskatoon, SK, Canada
Certimin S.A., Lima, Peru	


**Legal Notice:**

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no 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

  
 Duncan Sanderson, Certified Assayer of B.C.

Geochemist

  
 Dr. Barry Smee, Ph.D., P. Geo.