

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1208

Recommended values and the “Between Lab” Two Standard Deviations

Gold	0.246 g/t ± 0.048 g/t	Provisional value
Platinum	0.807 g/t ± 0.064 g/t	Certified value
Palladium	3.42 g/t ± 0.23 g/t	Certified value
Silver	3.8 g/t ± 0.7 g/t	Provisional value
Nickel	4.77 % ± 0.23 %	Certified value
Copper	1.635 % ± 0.084 %	Certified value
Cobalt	0.099 % ± 0.006 %	Certified value
Iron	18.45 % ± 1.25 %	Certified value
Sulphur	8.98 % ± 0.20 %	Certified value

Note: Standards with an RSD of near or less than 5% are certified, RSD's of between 5% and 15% are Provisional, and 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: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia

INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.

DATE OF CERTIFICATION: November 26, 2012

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 fifteen laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

This standard is made from ore supplied by Xstrata Nickel from their Raglan mine in Quebec.

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

	Percent		Percent
SiO ₂	34.4	MgO	7.3
Al ₂ O ₃	10.8	K ₂ O	0.4
Fe ₂ O ₃	26.6	TiO ₂	0.9
CaO	5.2	LOI	5.3
Na ₂ O	1.6	S	9.0

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, Pt, Pd: Fire assay pre-concentration, AA or ICP finish (30g sub-sample).

Ag, Cu, Co, Ni, Fe: 4-acid digestion, AA or ICP finish.

S: Leco Furnace.

REFERENCE MATERIAL CDN-ME-1208

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
	Au g/t														
ME-1208-1	0.198	0.169	0.242	0.238	0.220	0.290	0.236	0.258	0.298	0.223	0.198	0.218	0.284	0.274	0.24
ME-1208-2	0.205	0.172	0.248	0.265	0.275	0.280	0.238	0.248	0.252	0.225	0.230	0.231	0.279	0.258	0.26
ME-1208-3	0.249	0.192	0.234	0.229	0.220	0.250	0.254	0.258	0.223	0.251	0.308	0.225	0.269	0.247	0.20
ME-1208-4	0.270	0.251	0.278	0.290	0.261	0.260	0.236	0.244	0.375	0.222	0.199	0.225	0.259	0.271	0.26
ME-1208-5	0.226	0.229	0.231	0.231	0.264	0.330	0.222	0.246	0.225	0.232	0.236	0.239	0.232	0.257	0.25
ME-1208-6	0.307	0.277	0.242	0.258	0.220	0.250	0.274	0.246	0.267	0.221	0.264	0.256	0.239	0.289	0.20
ME-1208-7	0.227	0.226	0.289	0.270	0.281	0.260	0.222	0.250	0.273	0.216	0.360	0.282	0.299	0.245	0.21
ME-1208-8	0.246	0.239	0.215	0.235	0.253	0.260	0.277	0.259	0.273	0.241	0.210	0.273	0.257	0.272	0.25
ME-1208-9	0.254	0.198	0.281	0.230	0.271	0.270	0.261	0.253	0.227	0.245	0.317	0.264	0.273	0.225	0.21
ME-1208-10	0.236	0.213	0.242	0.261	0.270	0.330	0.224	0.246	0.246	0.233	0.184	0.179	0.251	0.295	0.20
Mean	0.242	0.217	0.250	0.251	0.254	0.278	0.244	0.251	0.266	0.231	0.251	0.239	0.264	0.263	0.228
Std. Devn.	0.0317	0.0346	0.0243	0.0210	0.0243	0.0301	0.0208	0.0058	0.0455	0.0116	0.0596	0.0306	0.0207	0.0212	0.0262
% RSD	13.11	15.99	9.70	8.38	9.60	10.83	8.53	2.30	17.12	5.02	23.80	12.78	7.83	8.06	11.47
	Pt g/t														
ME-1208-1	0.78	0.70	0.775	0.820	0.841	0.85	0.817		0.838	0.830	0.76	0.81	0.800	0.789	0.89
ME-1208-2	0.80	0.66	0.780	0.866	0.913	0.87	0.834		0.817	0.790	0.80	0.82	0.731	0.788	0.85
ME-1208-3	0.79	0.70	0.799	0.823	0.885	0.81	0.778		0.843	0.870	0.80	0.77	0.819	0.773	0.85
ME-1208-4	0.77	0.74	0.779	0.845	0.892	0.85	0.812		0.864	0.760	0.81	0.77	0.819	0.794	0.86
ME-1208-5	0.80	0.79	0.797	0.856	0.869	0.81	0.829		0.850	0.780	0.78	0.78	0.808	0.790	0.84
ME-1208-6	0.80	0.81	0.795	0.837	0.850	0.83	0.807		0.858	0.810	0.80	0.81	0.777	0.770	0.82
ME-1208-7	0.81	0.78	0.783	0.821	0.810	0.83	0.810		0.840	0.800	0.79	0.78	0.747	0.760	0.81
ME-1208-8	0.83	0.78	0.782	0.792	0.833	0.85	0.839		0.950	0.850	0.77	0.84	0.812	0.752	0.79
ME-1208-9	0.80	0.73	0.776	0.803	0.898	0.80	0.832		0.808	0.810	0.79	0.79	0.722	0.766	0.82
ME-1208-10	0.76	0.72	0.812	0.787	0.888	0.81	0.808		0.843	0.830	0.66	0.77	0.779	0.775	0.86
Mean	0.794	0.741	0.788	0.825	0.868	0.831	0.817		0.851	0.813	0.776	0.794	0.781	0.776	0.839
Std. Devn.	0.0201	0.0479	0.0122	0.0263	0.0331	0.0233	0.0180		0.0386	0.0330	0.0435	0.0246	0.0367	0.0142	0.0292
% RSD	2.53	6.47	1.55	3.19	3.81	2.80	2.20		4.54	4.06	5.61	3.10	4.69	1.83	3.48
	Pd g/t														
ME-1208-1	3.40	2.89	3.44	3.45	3.59	3.65	3.53		3.58	3.50	3.15	3.49	3.34	3.33	3.33
ME-1208-2	3.48	2.94	3.41	3.52	3.90	3.63	3.55		3.56	3.71	3.37	3.53	3.54	3.31	3.18
ME-1208-3	3.49	3.03	3.53	3.52	3.79	3.50	3.36		3.66	3.39	3.38	3.24	3.35	3.29	3.27
ME-1208-4	3.35	3.25	3.44	3.49	3.89	3.47	3.41		3.53	3.09	3.39	3.42	3.60	3.22	3.31
ME-1208-5	3.43	3.31	3.48	3.52	3.88	3.50	3.45		3.55	3.30	3.31	3.31	3.54	3.32	3.31
ME-1208-6	3.34	3.40	3.47	3.45	3.74	3.48	3.48		3.75	3.57	3.45	3.58	3.41	3.36	3.27
ME-1208-7	3.41	3.32	3.43	3.40	3.58	3.49	3.46		3.51	3.61	3.42	3.36	3.42	3.32	3.17
ME-1208-8	3.57	3.30	3.46	3.48	3.68	3.44	3.53		3.69	3.39	3.32	3.51	3.57	3.31	3.23
ME-1208-9	3.34	2.97	3.36	3.43	3.72	3.43	3.48		3.19	3.34	3.19	3.38	3.55	3.36	3.42
ME-1208-10	3.21	3.11	3.42	3.44	3.77	3.42	3.47		3.60	3.52	2.90	3.28	3.54	3.33	3.39
Mean	3.40	3.15	3.44	3.47	3.75	3.50	3.47		3.56	3.44	3.29	3.41	3.49	3.32	3.29
Std. Devn.	0.1001	0.1855	0.0455	0.0424	0.1161	0.0787	0.0577		0.1523	0.1782	0.1667	0.1150	0.0965	0.0402	0.0818
% RSD	2.94	5.88	1.32	1.22	3.09	2.25	1.66		4.28	5.18	5.07	3.37	2.77	1.21	2.49

NOTES: Pd data from Lab 5 was removed for failing the t test.
Lab. 8 was unable to supply Pt, Pd data.

REFERENCE MATERIAL CDN-ME-1208

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
	Ag g/t														
ME-1208-1	4	4	4	3.6	3.4	3.7	4	4.0		3.2	4	3.2	4.1	4.0	4
ME-1208-2	5	4	4	3.9	3.5	3.3	4	4.0		3.1	4	3.7	4.2	4.0	4
ME-1208-3	4	4	4	3.7	3.3	3.7	4	3.9		3.0	4	1.5	4.3	4.3	4
ME-1208-4	6	4	4	3.5	3.4	3.5	4	3.8		3.5	5	2.9	4.2	4.2	5
ME-1208-5	5	4	4	3.7	3.0	4.1	4	3.9		3.3	4	3.1	4.0	4.3	5
ME-1208-6	5	4	4	3.7	3.7	3.6	5	3.9		2.9	5	2.8	4.0	3.7	5
ME-1208-7	4	4	4	3.5	3.0	3.7	4	3.9		3.2	4	3.8	4.0	3.9	5
ME-1208-8	5	4	4	3.6	3.4	3.9	4	3.9		3.1	5	2.8	4.1	4.0	5
ME-1208-9	6	4	4	3.6	3.4	3.8	4	4.0		3.2	4	3.5	4.0	3.6	4
ME-1208-10	6	4	4	3.9	3.2	3.6	3	4.0		3.4	4	2.4	4.0	4.2	4
Mean	5.00	4.00	4.00	3.67	3.33	3.69	4.00	3.93		3.19	4.30	2.97	4.09	4.02	4.50
Std. Devn.	0.8165	0.0000	0.0000	0.1418	0.2163	0.2183	0.4714	0.0675		0.1792	0.4830	0.6767	0.1101	0.2394	0.5270
% RSD	16.33	0.00	0.00	3.86	6.49	5.92	11.79	1.72		5.62	11.23	22.78	2.69	5.96	11.71
	% Cu														
ME-1208-1	1.68	1.63	1.62	1.55	1.73	1.58	1.69	1.64	1.64	1.59	1.56	1.69	1.65	1.58	1.66
ME-1208-2	1.69	1.61	1.65	1.54	1.68	1.59	1.66	1.64	1.62	1.57	1.66	1.66	1.67	1.59	1.63
ME-1208-3	1.68	1.61	1.61	1.51	1.69	1.60	1.70	1.63	1.64	1.56	1.68	1.66	1.67	1.61	1.63
ME-1208-4	1.69	1.61	1.67	1.54	1.71	1.59	1.67	1.64	1.66	1.54	1.62	1.63	1.70	1.61	1.62
ME-1208-5	1.69	1.65	1.61	1.59	1.66	1.61	1.65	1.65	1.64	1.54	1.64	1.69	1.66	1.60	1.64
ME-1208-6	1.68	1.60	1.59	1.51	1.87	1.63	1.66	1.65	1.66	1.56	1.70	1.68	1.67	1.59	1.68
ME-1208-7	1.70	1.61	1.58	1.54	1.42	1.60	1.65	1.64	1.63	1.66	1.67	1.65	1.67	1.61	1.66
ME-1208-8	1.71	1.63	1.53	1.58	1.68	1.63	1.70	1.63	1.63	1.64	1.69	1.63	1.69	1.60	1.65
ME-1208-9	1.70	1.64	1.56	1.55	1.70	1.59	1.64	1.64	1.66	1.62	1.63	1.62	1.67	1.61	1.62
ME-1208-10	1.66	1.64	1.57	1.50	1.69	1.59	1.70	1.64	1.65	1.65	1.65	1.56	1.66	1.60	1.66
Mean	1.69	1.62	1.60	1.54	1.68	1.60	1.67	1.64	1.64	1.59	1.65	1.65	1.67	1.60	1.65
Std. Devn.	0.0137	0.0185	0.0420	0.0292	0.1095	0.0168	0.0235	0.0067	0.0134	0.0460	0.0408	0.0395	0.0145	0.0121	0.0201
% RSD	0.81	1.14	2.63	1.90	6.51	1.05	1.41	0.41	0.82	2.89	2.47	2.40	0.87	0.75	1.22
	% Co														
ME-1208-1	0.100	0.103	0.095	0.088	0.097	0.102	0.100	0.10	0.101	0.090	0.096	0.098	0.098	0.099	0.101
ME-1208-2	0.100	0.102	0.093	0.092	0.092	0.104	0.099	0.10	0.098	0.090	0.096	0.104	0.100	0.099	0.102
ME-1208-3	0.099	0.102	0.096	0.087	0.094	0.103	0.101	0.10	0.103	0.090	0.096	0.097	0.100	0.101	0.101
ME-1208-4	0.099	0.102	0.097	0.085	0.096	0.103	0.099	0.10	0.104	0.090	0.096	0.095	0.103	0.100	0.100
ME-1208-5	0.101	0.103	0.095	0.087	0.093	0.102	0.098	0.09	0.101	0.090	0.097	0.094	0.100	0.097	0.102
ME-1208-6	0.101	0.103	0.092	0.087	0.104	0.101	0.098	0.09	0.101	0.090	0.098	0.099	0.104	0.099	0.101
ME-1208-7	0.101	0.102	0.095	0.085	0.080	0.102	0.098	0.10	0.103	0.100	0.096	0.100	0.101	0.099	0.101
ME-1208-8	0.101	0.103	0.091	0.087	0.094	0.103	0.101	0.09	0.100	0.090	0.097	0.096	0.101	0.100	0.102
ME-1208-9	0.100	0.105	0.096	0.088	0.091	0.103	0.098	0.10	0.100	0.100	0.095	0.096	0.099	0.102	0.102
ME-1208-10	0.100	0.104	0.098	0.088	0.092	0.103	0.103	0.09	0.101	0.090	0.096	0.093	0.102	0.102	0.101
Mean	0.100	0.103	0.095	0.087	0.093	0.103	0.100	0.096	0.101	0.092	0.096	0.097	0.101	0.100	0.101
Std. Devn.	0.0008	0.0010	0.0022	0.0019	0.0059	0.0008	0.0017	0.0052	0.0017	0.0042	0.0009	0.0032	0.0018	0.0015	0.0008
% RSD	0.79	0.97	2.32	2.19	6.35	0.82	1.72	5.38	1.72	4.58	0.92	3.32	1.80	1.47	0.78

NOTES: Co data from Lab 4 was excluded for failing the "t" test.
 Lab 9 was unable to supply Ag data.

REFERENCE MATERIAL CDN-ME-1208

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
	% Ni														
ME-1208-1	5.00	4.78	4.68	4.63	4.29	4.86	4.73	4.70	4.81	4.74	4.62	4.86	4.76	4.66	4.84
ME-1208-2	5.01	4.74	4.55	4.60	4.18	4.85	4.70	4.70	4.76	4.61	4.71	5.08	4.80	4.67	4.87
ME-1208-3	5.01	4.73	4.66	4.63	4.25	4.90	4.76	4.65	4.82	4.72	4.80	4.90	4.85	4.69	4.92
ME-1208-4	4.98	4.74	4.70	4.73	4.31	4.86	4.74	4.69	4.88	4.77	4.85	4.78	4.87	4.72	4.82
ME-1208-5	4.97	4.78	4.56	4.74	4.20	4.92	4.74	4.71	4.85	4.73	4.66	4.72	4.73	4.70	4.86
ME-1208-6	5.05	4.80	4.62	4.65	4.65	4.99	4.63	4.73	4.91	4.62	4.80	4.88	4.76	4.64	4.92
ME-1208-7	5.03	4.73	4.64	4.71	3.61	4.87	4.59	4.68	4.82	4.58	4.96	5.06	4.75	4.77	4.93
ME-1208-8	5.01	4.80	4.58	4.70	4.22	4.91	4.76	4.67	4.83	4.58	4.87	4.72	4.76	4.76	4.92
ME-1208-9	5.00	4.89	4.63	4.68	4.21	4.84	4.67	4.67	4.88	4.84	4.66	4.80	4.76	4.79	4.88
ME-1208-10	4.95	4.83	4.70	4.56	4.17	4.86	4.86	4.69	4.87	4.68	4.49	4.62	4.73	4.74	4.91
Mean	5.00	4.78	4.63	4.66	4.21	4.89	4.72	4.69	4.84	4.69	4.74	4.84	4.78	4.71	4.89
Std. Devn.	0.0270	0.0506	0.0549	0.0589	0.2526	0.0446	0.0757	0.0228	0.0436	0.0878	0.1395	0.1468	0.0481	0.0497	0.0386
% RSD	0.54	1.06	1.19	1.26	6.00	0.91	1.60	0.49	0.90	1.87	2.94	3.03	1.01	1.05	0.79
	% Fe														
ME-1208-1	18.55	18.75	18.3	15.80	16.8	16.41	18.35	20.08	18.91	18.25	18.8	18.6	17.42	18.22	18.5
ME-1208-2	18.48	18.00	18.2	16.70	17.3	17.16	18.30	19.88	18.68	18.35	17.8	18.3	17.49	18.47	18.5
ME-1208-3	18.55	18.83	18.5	15.60	17.0	17.13	18.45	19.95	18.92	17.82	18.3	19.5	17.67	18.73	18.5
ME-1208-4	18.56	18.95	18.6	14.90	16.8	17.26	18.60	19.99	19.16	17.85	18.1	19.7	17.81	18.62	18.3
ME-1208-5	18.57	19.09	18.3	15.70	15.9	17.22	18.35	20.10	19.02	17.78	18.2	20.0	17.62	18.56	18.6
ME-1208-6	18.69	18.86	18.5	15.80	17.3	17.58	18.35	20.07	19.13	17.87	18.0	19.1	17.31	18.28	18.6
ME-1208-7	18.56	18.55	18.4	15.30	13.8	17.21	18.65	19.93	18.82	18.78	17.7	19.5	17.54	18.35	18.7
ME-1208-8	18.77	18.91	18.3	15.50	15.3	17.41	18.65	19.86	18.81	17.87	18.7	19.4	17.62	18.54	18.8
ME-1208-9	18.60	19.17	18.2	15.60	15.8	16.97	18.55	20.02	19.15	18.28	18.0	19.2	17.45	18.80	18.7
ME-1208-10	18.61	19.09	18.2	15.60	15.7	17.15	18.50	19.85	19.04	18.05	18.3	20.2	17.35	18.59	18.6
Mean	18.59	18.82	18.35	15.65	16.17	17.15	18.48	19.97	18.96	18.09	18.19	19.35	17.53	18.52	18.58
Std. Devn.	0.0818	0.3408	0.1434	0.4552	1.0975	0.3080	0.1339	0.0933	0.1631	0.3215	0.3542	0.5836	0.1546	0.1880	0.1398
% RSD	0.44	1.81	0.78	2.91	6.79	1.80	0.72	0.47	0.86	1.78	1.95	3.02	0.88	1.02	0.75
	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S
ME-1208-1	9.08		8.99	9.07	8.91		8.95	8.82	9.05	9.00	9.12	8.94	8.97		8.85
ME-1208-2	9.34		9.19	9.15	8.87		8.95	8.82	9.00	8.50	9.03	9.00	8.94		8.93
ME-1208-3	9.38		9.30	9.07	8.93		9.01	8.86	8.92	8.92	9.06	8.99	8.87		8.96
ME-1208-4	8.94		9.03	9.11	8.95		8.95	8.84	8.87	9.05	9.10	9.02	8.94		8.75
ME-1208-5	8.84		9.13	9.09	8.92		8.95	8.90	8.85	9.20	9.01	9.00	8.88		8.78
ME-1208-6	9.02		9.13	9.06	8.96		9.02	8.87	8.93	9.18	9.03	9.01	8.89		8.86
ME-1208-7	9.06		9.20	8.99	9.02		8.95	8.90	8.92	9.15	9.01	9.04	8.97		8.95
ME-1208-8	9.17		9.00	9.18	8.99		8.83	8.93	8.96	9.19	9.10	9.02	8.91		8.90
ME-1208-9	8.92		9.14	9.06	8.99		8.87	8.89	8.85	9.38	9.11	8.99	8.91		8.76
ME-1208-10	9.28		9.07	9.14	8.97		8.92	8.90	8.88	8.72	9.02	9.03	8.97		8.70
Mean	9.10		9.12	9.09	8.95		8.94	8.87	8.92	9.03	9.06	9.00	8.93		8.84
Std. Devn.	0.1848		0.0978	0.0549	0.0446		0.0570	0.0374	0.0657	0.2591	0.0443	0.0280	0.0384		0.0920
% RSD	2.03		1.07	0.60	0.50		0.64	0.42	0.74	2.87	0.49	0.31	0.43		1.04

NOTES: Ni data from Lab 5 was excluded for failing the "t" test.

Fe data from Labs 4 and 5 was excluded for failing the "t" test.

Labs 2, 6 and 14 were unable to supply Leco S data.

REFERENCE MATERIAL CDN-ME-1208

Participating Laboratories:

(not in same order as listed in table of results)

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Actlabs-Thunder Bay, Ontario, Canada
AGAT, Mississauga, Ontario, Canada
ALS Chemex Laboratories, North Vancouver, B.C., Canada
Alex Stewart Argentina SA
CIMM, Lima, Peru
Genalysis Laboratory, Australia
Inspectorate, Richmond, B.C., Canada
SGS, Lima, Peru
SGS Toronto, Ontario, Canada
SGS, Vancouver, B.C., Canada
TSL Laboratories Ltd., Saskatoon
Ultra Trace Analytical Laboratories, Australia

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