

# CDN Resource Laboratories Ltd.

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## REFERENCE MATERIAL: CDN-MPC-1301

Recommended values and the “Between Lab” Two Standard Deviations

<i>Gold</i>	<i>13.54 g/t ± 0.66 g/t</i>	<i>Certified value</i>	<i>FA / gravimetric finish</i>
<i>Silver</i>	<i>40.6 g/t ± 3.9 g/t</i>	<i>Certified value</i>	<i>4-acid / ICP or AA</i>
<i>Copper</i>	<i>21.80 % ± 0.18 %</i>	<i>Certified value</i>	<i>Titration</i>
<i>Iron</i>	<i>27.88 % ± 1.67 %</i>	<i>Certified value</i>	<i>4-acid / ICP or AA</i>
<i>Sulphur</i>	<i>27.40 % ± 1.30 %</i>	<i>Certified value</i>	<i>Leco</i>

**Note:** 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.

The certified value and between lab 2SD calculated for each element are done so for a specific analytical procedure. It is inappropriate to apply them to other techniques (eg. geochemical analyses).

**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:** February 20, 2014

### **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 laboratories for round robin assaying.

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

Standard CDN-MPC-1301 was prepared using a copper concentrate supplied by Imperial Metals Corporation from their Mt. Polley Mine in British Columbia, Canada.

### **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  $\pm 2$  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.

**REFERENCE MATERIAL CDN-MPC-1301**

**Results from round-robin assaying:**

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9
	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
MPC-1301-1	13.39	13.6	13.23	14.40	13.1	13.45	13.6		13.18
MPC-1301-2	13.01	13.5	13.69	14.10	13.3	13.85	13.8		13.11
MPC-1301-3	13.42	13.9	13.69	14.10	13.0	13.30	13.8		13.51
MPC-1301-4	13.41	13.6	13.27	14.30	13.0	13.25	13.4		13.26
MPC-1301-5	13.80	13.8	13.49	14.10	13.5	13.70	13.4		13.24
MPC-1301-6	13.03	13.9	13.53	14.00	13.6	13.70	13.1		13.25
MPC-1301-7	13.32	14.0	13.40	13.90	13.9	13.80	13.2		13.45
MPC-1301-8	13.04	13.9	13.82	13.80	13.4	13.60	13.3		13.74
MPC-1301-9	13.19	14.0	13.38	14.20	13.9	13.45	12.9		13.29
MPC-1301-10	13.10	13.7	13.07	14.20	13.9	13.90	13.5		13.61
Mean	13.27	13.79	13.46	14.11	13.46	13.60	13.40		13.36
Std. Devn.	0.2479	0.1792	0.2339	0.1792	0.3627	0.2285	0.2906		0.2038
% RSD	1.87	1.30	1.74	1.27	2.69	1.68	2.17		1.52
	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
MPC-1301-1	44	42	43		38.0	40.4	39.1		40
MPC-1301-2	41	42	42		40.1	41.6	39.4		39
MPC-1301-3	44	41	41		37.6	39.7	38.7		39
MPC-1301-4	44	43	43		40.5	42.8	39.4		41
MPC-1301-5	45	43	43		39.2	40.3	38.8		40
MPC-1301-6	44	42	43		38.4	41.6	38.8		41
MPC-1301-7	42	41	40		37.5	40.2	39.5		38
MPC-1301-8	42	42	41		38.3	40.2	38.9		37
MPC-1301-9	42	42	41		39.0	40.2	38.1		38
MPC-1301-10	44	43	42		38.5	39.5	38.3		37
Mean	43.2	42.1	41.9		38.7	40.7	38.9		39.0
Std. Devn.	1.317	0.738	1.101		0.993	1.024	0.467		1.491
% RSD	3.05	1.75	2.63		2.57	2.52	1.20		3.82
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
MPC-1301-1	21.75	21.4	21.80			21.94	21.90	21.80	21.73
MPC-1301-2	21.71	21.2	21.70			21.98	21.84	21.81	21.74
MPC-1301-3	21.80	21.2	21.60			21.97	21.79	21.84	21.74
MPC-1301-4	21.83	21.3	21.80			22.05	21.90	21.84	21.84
MPC-1301-5	21.82	21.4	21.70			22.27	21.90	21.81	21.85
MPC-1301-6	21.68	21.2	21.70			22.17	21.81	21.81	21.75
MPC-1301-7	21.76	21.3	21.70			22.35	21.91	21.84	21.72
MPC-1301-8	21.74	21.2	21.80			21.99	21.81	21.81	21.74
MPC-1301-9	21.74	21.1	21.60			22.31	21.82	21.80	21.75
MPC-1301-10	21.73	21.3	21.70			21.90	21.78	21.78	21.73
Mean	21.76	21.26	21.71			22.09	21.85	21.81	21.76
Std. Devn.	0.0479	0.0966	0.0738			0.1671	0.0513	0.0199	0.0463
% RSD	0.22	0.45	0.34			0.76	0.23	0.09	0.21

Note: Four acid Cu results from laboratory 2 were removed for failing the t test.  
 Laboratory 4 did not provide Ag nor Cu results.  
 Laboratory 5 did not provide Cu results.  
 Laboratory 8 did not provide Au nor Ag results.

**REFERENCE MATERIAL CDN-MPC-1301**

**Results from round-robin assaying:**

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9
	Fe %	Fe %	Fe %	Fe %	Fe %	Fe %	Fe %	Fe %	Fe %
MPC-1301-1	28.88	28.1	27.62		27.89	26.0	27.7		26.07
MPC-1301-2	27.81	28.1	28.32		27.47	26.1	27.9		26.33
MPC-1301-3	29.24	28.0	27.60		28.60	26.9	27.8		26.32
MPC-1301-4	29.01	28.1	27.59		27.61	27.5	27.6		26.24
MPC-1301-5	28.87	28.5	27.73		28.13	25.1	28.2		26.81
MPC-1301-6	29.53	27.9	28.27		27.62	25.8	28.2		26.63
MPC-1301-7	29.30	28.7	28.64		27.34	25.0	27.8		27.03
MPC-1301-8	28.67	29.2	28.16		26.86	25.2	27.8		26.28
MPC-1301-9	28.45	28.7	27.91		27.27	25.0	27.1		26.41
MPC-1301-10	28.43	29.3	27.93		26.91	25.0	28.0		26.34
Mean	28.82	28.46	27.98		27.57	25.76	27.81		26.45
Std. Devn.	0.5038	0.5038	0.3596		0.5345	0.8809	0.3178		0.2907
% RSD	1.75	1.77	1.29		1.94	3.42	1.14		1.10
	S %	S %	S %	S %	S %	S %	S %	S %	S %
MPC-1301-1	26.44	28.3	28.33	26.9	26.8	27.6	25.4		27.30
MPC-1301-2	27.23	29.0	28.15	26.9	26.8	27.4	25.2		27.24
MPC-1301-3	26.87	27.4	28.99	27.0	26.7	28.1	25.6		27.42
MPC-1301-4	26.66	28.5	28.76	27.1	26.6	27.9	25.1		27.37
MPC-1301-5	26.62	27.8	28.42	27.3	26.4	27.7	25.1		27.73
MPC-1301-6	27.22	27.6	28.48	27.1	26.7	28.0	25.4		27.30
MPC-1301-7	26.81	28.4	28.62	27.2	26.7	27.8	25.5		27.53
MPC-1301-8	25.90	27.4	28.89	27.1	26.7	27.3	25.6		27.38
MPC-1301-9	27.07	27.5	29.28	26.6	26.5	27.8	25.2		27.25
MPC-1301-10	26.35	28.0	28.60	26.9	26.8	27.7	25.8		27.22
Mean	26.72	27.99	28.65	27.01	26.67	27.73	25.39		27.37
Std. Devn.	0.4169	0.5446	0.3366	0.1969	0.1337	0.2497	0.2378		0.1568
% RSD	1.56	1.95	1.17	0.73	0.50	0.90	0.94		0.57

Notes: Sulphur results from laboratory 7 were removed for failing the t test.  
 Laboratory 4 did not provide Fe results.  
 Laboratory 8 did not provide Fe nor S results.

**REFERENCE MATERIAL CDN-MPC-1301**

**Participating Laboratories:**

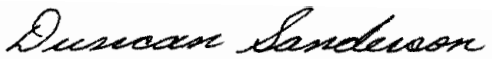
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
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ALS Canada, North Vancouver, B.C., Canada  
ALS (Omac), Loughrea, Northern Ireland  
Intertek – Genalysis, Perth, Australia  
SGS, Lakefield, Ontario, Canada  
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Certified by

  
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Duncan Sanderson, Certified Assayer of B.C.

Geochemist

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