CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-MPC-1701

Recommended values and the "Between Lab" Two Standard Deviations

Gold	**4.56 g/t**	**±**	**0.25 g/t**	**30 g FA, instrumental**	**Certified value**
Gold	**4.65 g/t**	**±**	**0.49 g/t**	**30 g FA, Gravimetric**	**Certified value**
Copper	**23.43 %**	**±**	**0.78 %**	**Titration**	**Certified value**
Silver	**29.8 ppm**	**±**	**4.3 ppm**	**Aqua Regia digestion / ICP**	***Provisional value***
Iron	**31.73 %**	**±**	**1.77 %**	**Aqua Regia digestion / ICP**	**Certified value**
Antimony	**0.115 %**	**±**	**0.010 %**	**Aqua Regia digestion / ICP**	**Certified value**
Mercury	**29.3 ppm**	**±**	**2.6 ppm**	**Cold vapour**	**Certified value**
Total C	**0.49 %**	**±**	**0.05 %**	**IR instrument**	**Certified value**
Total S	**35.85 %**	**±**	**2.04 %**	**IR instrument**	**Certified value**

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.

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 26, 2018

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-MPC-1701 was prepared using material provided by Imperial Metal's Red Chris Copper-Gold project in British Columbia, Canada.

Whole rock analyses from early and intermediate stage porphyries in the Red stock fall marginally on the calc-alkaline side of the alkaline/subalkaline divider, suggesting that Red Chris should be assigned to the high-K calc-alkalic category of Lang et al. (1994). However, late-mineral stage porphyries plot in the alkalic field. Although there remains ambiguity in the petrochemical affinity of Red Chris, perhaps the most telling observation is that the mineralizing (intermediate-stage) quartz monzonite porphyries plot in the high-K calc-alkalic field.
Copper sulfide mineralization is disseminated, occurs in quartz veins, and in microfractures.
The Red Chris deposit displays characteristics of both alkalic and calc-alkalic porphyry copper deposits.

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.

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:	10 gr. fire assay pre-concentration, AA or ICP finish.
Au:	10 gr. fire assay pre-concentration, Gravimetric finish.
Total Cu:	Titration
Ag, Fe, Sn:	Aqua Regia digestion, AA or ICP finish.
Mercury:	Cold Vapour.
Total C and Total S:	IR instrument.

Results from round-robin assaying:

Instrumental	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
MPC-1701-1	4.50	4.29	4.65	4.62	4.55	4.21	4.55
MPC-1701-2	4.52	4.33	4.70	4.67	4.75	4.41	4.57
MPC-1701-3	4.50	4.52	4.58	4.64	4.67	4.38	4.70
MPC-1701-4	4.52	4.35	4.01	4.60	4.67	4.43	4.51
MPC-1701-5	4.49	4.43	4.52	4.57	4.69	4.40	4.62
MPC-1701-6	4.63	4.31	4.48	4.65	4.83	4.34	4.70
MPC-1701-7	4.56	4.49	4.67	4.53	4.79	4.40	4.53
MPC-1701-8	4.56	4.53	4.96	4.61	4.76	4.38	4.60
MPC-1701-9	4.51	4.51	4.72	4.56	4.87	4.47	4.60
MPC-1701-10	4.67	4.53	4.74	4.58	4.92	4.41	4.76
Mean	**4.55**	**4.43**	**4.60**	**4.60**	**4.75**	**4.38**	**4.61**
Std. Dev.	**0.060**	**0.099**	**0.247**	**0.044**	**0.109**	**0.069**	**0.082**
% RSD	**1.33**	**2.24**	**5.37**	**0.95**	**2.30**	**1.59**	**1.78**
Gravimetric	**Lab 1**	**Lab 2**	**Lab 3**	**Lab 4**	**Lab 5**	**Lab 6**	**Lab 7**
	Au g/t	**Au g/t**	**Au g/t**	**Au g/t**	**Au g/t**	**Au g/t**	**Au g/t**
MPC-1701-1	4.46	4.18	4.80	4.43	5.13	4.78	4.76
MPC-1701-2	4.55	4.29	4.70	4.57	5.06	4.92	4.86
MPC-1701-3	4.52	4.40	4.80	4.47	4.84	5.05	4.92
MPC-1701-4	4.63	4.52	5.30	4.48	4.79	4.91	4.64
MPC-1701-5	4.37	4.73	4.80	4.80	4.76	4.94	4.83
MPC-1701-6	4.65	4.22	4.80	4.48	4.97	5.03	4.53
MPC-1701-7	4.56	4.22	5.60	4.36	4.84	4.90	4.69
MPC-1701-8	4.71	4.46	4.40	4.28	4.75	5.07	4.56
MPC-1701-9	4.58	4.45	4.40	4.27	4.57	4.91	4.67
MPC-1701-10	4.55	4.19	4.50	4.40	5.09	4.94	4.82
Mean	**4.56**	**4.37**	**4.81**	**4.45**	**4.88**	**4.95**	**4.73**
Std. Dev.	**0.096**	**0.179**	**0.381**	**0.153**	**0.178**	**0.086**	**0.131**
% RSD	**2.12**	**4.09**	**7.93**	**3.44**	**3.65**	**1.74**	**2.77**

Results from round-robin assaying-Continue:

Titration	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
MPC-1701-1	22.70	24.10	23.83	23.49	23.40	23.73	23.33
MPC-1701-2	22.60	23.50	23.85	23.45	23.41	23.82	23.40
MPC-1701-3	22.80	22.40	23.82	23.49	23.44	23.55	23.32
MPC-1701-4	23.10	23.30	23.83	23.44	23.41	23.76	23.33
MPC-1701-5	23.40	22.40	23.87	23.45	23.39	23.64	23.34
MPC-1701-6	22.30	23.40	23.87	23.54	23.44	23.82	23.38
MPC-1701-7	22.60	22.70	23.83	23.34	23.43	23.95	23.39
MPC-1701-8	22.80	23.60	23.82	23.44	23.43	23.98	23.43
MPC-1701-9	22.60	23.10	23.85	23.39	23.41	23.68	23.55
MPC-1701-10	22.60	22.20	23.75	23.44	23.40	23.96	23.40
Mean	**22.75**	**23.07**	**23.83**	**23.45**	**23.42**	**23.79**	**23.39**
Std. Dev.	**0.306**	**0.622**	**0.034**	**0.055**	**0.018**	**0.145**	**0.068**
% RSD	**1.35**	**2.70**	**0.14**	**0.23**	**0.08**	**0.61**	**0.29**
Instrumental	**Lab 1**	**Lab 2**	**Lab 3**	**Lab 4**	**Lab 5**	**Lab 6**	**Lab 7**
	Ag g/t	**Ag g/t**	**Ag g/t**	**Ag g/t**	**Ag g/t**	**Ag g/t**	**Ag g/t**
MPC-1701-1	31.0	30.0	36.8	33.0	27.5	31.0	27.3
MPC-1701-2	30.0	30.0	38.0	34.0	27.3	31.0	27.3
MPC-1701-3	29.0	29.0	38.3	34.0	27.3	30.0	27.3
MPC-1701-4	29.0	29.0	36.9	34.0	27.3	31.0	27.5
MPC-1701-5	31.0	30.0	37.4	33.0	27.6	30.0	27.2
MPC-1701-6	30.0	29.0	38.2	33.0	27.7	31.0	27.5
MPC-1701-7	31.0	29.0	36.4	33.0	27.7	30.0	27.2
MPC-1701-8	32.0	29.0	36.8	33.0	28.0	31.0	27.2
MPC-1701-9	32.0	30.0	37.2	34.0	27.6	29.0	27.5
MPC-1701-10	29.0	28.0	37.0	33.0	27.4	30.0	27.1
Mean	**30.40**	**29.30**	**37.30**	**33.40**	**27.54**	**30.40**	**27.31**
Std. Dev.	**1.174**	**0.675**	**0.657**	**0.516**	**0.227**	**0.699**	**0.145**
% RSD	**3.86**	**2.30**	**1.76**	**1.55**	**0.82**	**2.30**	**0.53**
Instrumental	**Lab 1**	**Lab 2**	**Lab 3**	**Lab 4**	**Lab 5**	**Lab 6**	**Lab 7**
	Fe %	**Fe %**	**Fe %**	**Fe %**	**Fe %**	**Fe %**	**Fe %**
MPC-1701-1	32.80	32.40	29.00	32.01	31.08	30.20	32.80
MPC-1701-2	33.40	31.30	29.50	32.21	31.13	31.00	32.60
MPC-1701-3	32.40	31.40	29.40	31.99	31.13	30.15	32.60
MPC-1701-4	31.50	31.30	28.90	32.14	31.09	30.24	32.60
MPC-1701-5	33.10	31.40	28.90	31.67	31.10	29.17	32.60
MPC-1701-6	31.80	31.10	28.80	32.22	31.05	29.84	32.90
MPC-1701-7	32.30	31.70	28.40	32.24	31.14	30.00	32.90
MPC-1701-8	34.10	31.10	28.60	31.93	31.12	30.17	32.90
MPC-1701-9	32.90	31.60	28.40	32.37	31.07	28.42	33.00
MPC-1701-10	32.50	30.90	28.30	32.08	31.09	29.05	31.80
Mean	**32.68**	**31.42**	**28.82**	**32.09**	**31.10**	**29.82**	**32.67**
Std. Dev.	**0.760**	**0.418**	**0.410**	**0.198**	**0.029**	**0.742**	**0.343**
% RSD	**2.33**	**1.33**	**1.42**	**0.62**	**0.09**	**2.49**	**1.05**

Notes: **Ag results from Lab 3 were removed for failing the t test.**
Fe results from Lab 3 were removed for failing the t test.

Results from round-robin assaying-Continue:

Cold Vapour	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
	Hg ppm	Hg ppm	Hg ppm	Hg ppm	Hg ppm	Hg ppm	Hg ppm
MPC-1701-1	28.40	28.10	33.00		31.03	27.00	30.50
MPC-1701-2	28.60	28.20	34.30		30.48	28.00	30.20
MPC-1701-3	28.30	29.40	33.90		30.46	27.00	30.70
MPC-1701-4	29.00	30.30	33.40		31.16	28.00	31.00
MPC-1701-5	27.90	28.50	33.60		30.94	28.00	30.30
MPC-1701-6	28.50	28.60	33.30		30.18	29.00	31.20
MPC-1701-7	27.80	29.90	33.70		30.24	29.00	30.40
MPC-1701-8	28.00	30.60	33.70		30.50	28.00	31.60
MPC-1701-9	28.60	29.30	33.40		31.05	28.00	32.40
MPC-1701-10	28.10	28.20	33.80		30.32	27.00	32.50
Mean	**28.32**	**29.11**	**33.61**		**30.64**	**27.90**	**31.08**
Std. Dev.	**0.374**	**0.924**	**0.360**		**0.370**	**0.738**	**0.842**
% RSD	**1.32**	**3.18**	**1.07**		**1.21**	**2.64**	**2.71**
Instrumental	**Lab 1**	**Lab 2**	**Lab 3**	**Lab 4**	**Lab 5**	**Lab 6**	**Lab 7**
	Sb %	**Sb %**	**Sb %**	**Sb %**	**Sb %**	**Sb %**	**Sb %**
MPC-1701-1	0.118	0.122	0.108	0.117	0.107	0.122	0.094
MPC-1701-2	0.117	0.118	0.111	0.118	0.107	0.126	0.095
MPC-1701-3	0.117	0.120	0.111	0.117	0.107	0.123	0.094
MPC-1701-4	0.114	0.119	0.108	0.118	0.109	0.122	0.094
MPC-1701-5	0.117	0.119	0.108	0.115	0.109	0.119	0.096
MPC-1701-6	0.114	0.117	0.111	0.117	0.106	0.120	0.096
MPC-1701-7	0.117	0.120	0.106	0.118	0.110	0.123	0.093
MPC-1701-8	0.120	0.118	0.108	0.118	0.109	0.124	0.095
MPC-1701-9	0.116	0.118	0.108	0.117	0.111	0.116	0.094
MPC-1701-10	0.116	0.118	0.109	0.116	0.109	0.122	0.094
Mean	**0.117**	**0.119**	**0.109**	**0.117**	**0.108**	**0.122**	**0.095**
Std. Dev.	**0.002**	**0.001**	**0.002**	**0.001**	**0.002**	**0.003**	**0.001**
% RSD	**1.52**	**1.22**	**1.55**	**0.85**	**1.46**	**2.29**	**1.02**
Instrumental	**Lab 1**	**Lab 2**	**Lab 3**	**Lab 4**	**Lab 5**	**Lab 6**	**Lab 7**
	C-Tot %	**C-Tot %**	**C-Tot %**	**C-Tot %**	**C-Tot %**	**C-Tot %**	**C-Tot %**
MPC-1701-1	4.50			0.50	0.49	0.50	0.46
MPC-1701-2	4.52			0.48	0.50	0.50	0.44
MPC-1701-3	4.50			0.47	0.50	0.51	0.42
MPC-1701-4	4.52			0.48	0.49	0.50	0.44
MPC-1701-5	4.49			0.48	0.49	0.52	0.46
MPC-1701-6	4.63			0.48	0.49	0.52	0.42
MPC-1701-7	4.56			0.48	0.50	0.50	0.42
MPC-1701-8	4.56			0.48	0.51	0.51	0.45
MPC-1701-9	4.51			0.48	0.49	0.51	0.43
MPC-1701-10	4.67			0.49	0.50	0.52	0.44
Mean	**4.55**			**0.48**	**0.50**	**0.51**	**0.44**
Std. Dev.	**0.060**			**0.008**	**0.006**	**0.009**	**0.015**
% RSD	**1.33**			**1.64**	**1.24**	**1.72**	**3.54**

Notes: **Hg results from Lab 3 were removed for failing the t test.**
Sb results from Lab 7 were removed for failing the t test.
Lab 4 didn't perform Hg Cold Vapour.
Lab 2 and Lab 3 did not report C total LECO.

Results from round-robin assaying-Continue:

Instrumental	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7
	S-Tot %	S-Tot %	S-Tot %	S-Tot %	S-Tot %	S-Tot %	S-Tot %
MPC-1701-1	35.10	32.80		36.06	37.02	36.20	36.30
MPC-1701-2	34.10	35.10		35.59	37.18	35.70	35.80
MPC-1701-3	33.70	34.00		36.59	37.19	36.70	34.60
MPC-1701-4	35.30	34.60		36.12	37.28	36.50	35.70
MPC-1701-5	34.20	34.00		36.10	37.21	37.00	35.60
MPC-1701-6	35.00	34.40		35.30	37.06	37.00	35.40
MPC-1701-7	35.10	35.00		36.58	37.10	36.30	35.20
MPC-1701-8	35.10	34.30		35.65	37.05	36.80	35.90
MPC-1701-9	35.70	29.50		35.95	37.20	37.50	35.40
MPC-1701-10	34.90	32.40		36.23	37.05	37.00	35.70
Mean	**34.82**	**33.61**		**36.02**	**37.13**	**36.67**	**35.56**
Std. Dev.	**0.618**	**1.685**		**0.414**	**0.088**	**0.512**	**0.455**
% RSD	**1.77**	**5.01**		**1.15**	**0.24**	**1.40**	**1.28**

Notes: Lab 3 did not report S total LECO.

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

Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Kamloops, BC, Canada
AGAT, Ontario, Canada
Bureau Veritas, Vancouver, BC, Canada
Certimin S.A., Lima, Peru
MS Analytical, Langley, BC, Canada
SGS, Lakefield, Ontario, Canada

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

Duncan Sanderson, Certified Assayer of B.C.

Geochemist B W Smee

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