

# CDN Resource Laboratories Ltd.

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## REFERENCE MATERIAL: CDN-GS-2X

Recommended value and the "Between Laboratory" two standard deviations

Gold	2.388 g/t ± 0.232 g/t	Certified value	30g FA / AA or ICP Finish
Gold	1.97 g/t ± 0.50 g/t	Provisional mean	Aqua Regia/ AA or ICP Finish
Silver	126 g/t ± 7 g/t	Certified value	30g FA / Gravimetric Finish
Silver	130 g/t ± 6 g/t	Certified value	Aqua Regia/ AA or ICP Finish
Arsenic	90.1 ppm ± 7.2 ppm	Certified value	Aqua Regia/ AA or ICP Finish

**PREPARED BY:** CDN Resource Laboratories Ltd.  
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**INDEPENDENT GEOCHEMIST:** Dr. Barry Smee., Ph.D., P. Geo.  
**DATE OF CERTIFICATION:** August 20<sup>th</sup>, 2021

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

Standard CDN-GS-2X was prepared using ore from the Minto Mine (Minto Explorations) in Yukon, Canada, supplied as coarse reject from diamond drilling blended with of Hecla's Greens Creek deposit and spiked with a high-grade gold ore. Mineralization in Minto mine is primary chalcopyrite and bornite pervasively disseminated and as stringers within foliated granodiorite units rich in secondary biotite. Sulphide mineralization is typically accompanied by magnetite. Gold is intimately associated with the bornite mineralization and rarely observed as free gold.

The Greens Creek deposit is a polymetallic, stratiform, massive sulfide deposit. The host rock consists of predominantly marine sedimentary, and mafic to ultramafic volcanic and plutonic rocks, which have been subjected to multiple periods of deformation. Mineralization occurs discontinuously along the contact between a structural hanging wall of quartz mica carbonate phyllites, and a structural footwall of graphitic and calcareous argillite.

Ore lithologies fall into two broad groups: massive ores with over 50% sulfides and white ores with less than 50% sulfides. The massive ores are further subdivided as either being base-metal or pyrite dominant. Massive ores vary greatly in precious-metal grade from uneconomic to bonanza Au (>.5 opt) and Ag (>100 opt). White ores are subdivided into three groups by the dominant gangue mineralogy; white carbonate, white siliceous, and white baritic ore. These ores tend to be base-metal poor and precious-metal rich. Major sulfide minerals are pyrite, sphalerite, galena, and tetrahedrite/tennantite.

### **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 blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

### **ASSAY PROCEDURES:**

**Au:** 30 gr Fire assay pre-concentration, AA or ICP finish.  
**Ag:** 30 gr Fire assay pre-concentration, gravimetric finish.  
**Au, Ag, As:** Aqua Regia digestion with AA or ICP finish

Whole rock analysis and 30 element ICP analysis (4-acid digestion) were also conducted on 5 samples.

**APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):**

Analyte	Percent	Analyte	Percent
SiO <sub>2</sub>	59.0	Na <sub>2</sub> O	4.4
Al <sub>2</sub> O <sub>3</sub>	15.0	MgO	2.2
Fe <sub>2</sub> O <sub>3</sub>	6.9	K <sub>2</sub> O	2.6
CaO	4.4	TiO <sub>2</sub>	0.5
MnO	0.1	LOI	3.4
Total S	1.3	Total C	0.6

**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 mean and standard deviation 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.

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" 30 g of material. Using a smaller sample weight may result in erratic values.

**RESULTS FROM ROUND ROBIN ASSAYING:**

Sample	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
	<b>Au by Fire Assay, 30g sample size and Instrumental finish</b>														
GS-2X-1	2.39	2.65	2.49	2.40	2.42	2.31	2.29	2.39	2.35	2.314	2.263	2.44	2.54	2.50	2.326
GS-2X-2	2.34	2.41	2.45	2.56	2.49	2.43	2.25	2.32	2.44	2.287	2.106	2.28	2.51	2.41	2.236
GS-2X-3	2.49	2.37	2.57	2.38	2.49	2.64	2.28	2.32	2.20	2.257	2.338	2.15	2.49	2.41	2.328
GS-2X-4	2.51	2.47	2.60	2.35	2.57	2.39	2.39	2.41	2.36	2.272	2.320	2.12	2.53	2.33	2.287
GS-2X-5	2.35	2.43	2.62	2.46	2.76	2.19	2.43	2.25	2.32	2.247	2.346	2.21	2.51	2.40	2.191
GS-2X-6	2.37	2.64	2.53	2.43	2.36	2.57	2.2	2.47	2.37	2.301	2.353	2.12	2.51	2.50	2.207
GS-2X-7	2.31	2.48	2.42	2.60	2.43	2.40	2.43	2.38	2.40	2.264	2.279	2.20	2.55	2.38	2.242
GS-2X-8	2.43	2.29	2.51	2.47	2.37	2.34	2.24	2.54	2.52	2.294	2.223	2.12	2.53	2.56	2.287
GS-2X-9	2.32	2.40	2.43	2.30	2.68	2.37	2.29	2.33	2.60	2.237	2.300	2.34	2.54	2.62	2.320
GS-2X-10	2.14	2.25	2.40	2.55	2.40	2.33	2.34	2.49	2.37	2.282	2.280	2.48	2.54	2.55	2.193
Mean	2.37	2.44	2.50	2.45	2.50	2.40	2.31	2.390	2.39	2.276	2.281	2.25	2.53	2.47	2.262
Std. Devn.	0.104	0.130	0.078	0.097	0.134	0.129	0.080	0.090	0.109	0.025	0.074	0.134	0.020	0.093	0.055
% RSD	4.413	5.340	3.100	3.976	5.386	5.368	3.476	3.753	4.574	1.079	3.230	5.985	0.775	3.786	2.420
<b>Au (g/t) by Aqua Regia digestion /Instrumental finish</b>															
GS-2X-1	>1.00	>1.00	1.39	1.97	>1.00	>1.00	1.86	1.77		2.136	2.309	2.04		0.95	2.023
GS-2X-2	>1.00	>1.00	2.04	1.88	>1.00	>1.00	1.81	1.90		2.181	2.287	2.15		0.99	1.984
GS-2X-3	>1.00	>1.00	1.44	1.97	>1.00	>1.00	1.91	1.73		2.196	2.543	2.02		0.94	2.094
GS-2X-4	>1.00	>1.00	1.63	1.76	>1.00	>1.00	1.88	1.64		2.101	2.525	2.03		1.11	1.897
GS-2X-5	>1.00	>1.00	1.54	1.91	>1.00	>1.00	1.72	1.82		2.096	2.640	2.08		0.93	1.993
GS-2X-6	>1.00	>1.00	1.22	1.94	>1.00	>1.00	1.81	1.59		2.128	2.624	1.99		2.01	2.042
GS-2X-7	>1.00	>1.00	1.45	1.90	>1.00	>1.00	1.80	1.72		2.133	2.408	2.05		1.10	2.108
GS-2X-8	>1.00	>1.00	1.31	1.82	>1.00	>1.00	1.66	1.97		2.152	2.481	2.40		1.10	1.956
GS-2X-9	>1.00	>1.00	1.30	2.02	>1.00	>1.00	1.84	1.65		2.145	2.350	2.14		1.07	2.003
GS-2X-10	>1.00	>1.00	1.31	1.98	>1.00	>1.00	1.63	1.72		2.099	2.392	1.94		0.98	1.905
Mean			1.46	1.92			1.79	1.751		2.137	2.456	2.08		1.12	2.001
Std. Devn.			0.24	0.08			0.09	0.118		0.03	0.13	0.13		0.32	0.07
% RSD			16.19	4.14			5.20	6.760		1.58	5.14	6.13		28.74	3.52

Ag (g/t) by Aqua Regia digestion /Instrumental finish															
GS-2X-1	>100	>100	>100	>100	132	129	134	128	128	135	127	32.3	130		129
GS-2X-2	>100	>100	>100	>100	134	132	136	131	131	134	126	31.6	131		128
GS-2X-3	>100	>100	>100	>100	134	130	132	127	137	132	126	30.1	133		128
GS-2X-4	>100	>100	>100	>100	132	128	132	126	127	133	126	30.7	130		127
GS-2X-5	>100	>100	>100	>100	125	137	134	128	128	134	124	32.4	132		129
GS-2X-6	>100	>100	>100	>100	129	134	132	126	135	135	125	30.2	131		129
GS-2X-7	>100	>100	>100	>100	120	131	131	131	134	133	126	34.2	130		127
GS-2X-8	>100	>100	>100	>100	126	135	131	131	134	136	126	30.8	132		128
GS-2X-9	>100	>100	>100	>100	153	132	139	125	131	136	123	27.7	132		130
GS-2X-10	>100	>100	>100	>100	128	137	134	128	127	134	126	28.6	130		132
Mean					131	133	134	128	131	134	126	30.9	131		129
Std. Devn.					8.81	3.17	2.51	2.234	3.65	1.27	1.18	1.89	1.10		1.49
% RSD					6.71	2.39	1.88	1.744	2.78	0.94	0.94	6.14	0.84		1.16
Ag (g/t) by Fire Assay /Gravimetric finish															
GS-2X-1	124	131			120	121	125	128	126		122	119	132		127
GS-2X-2	127	131			122	128	128	121	125		128	127	134		131
GS-2X-3	124	130			121	124	127	125	132		125	121	133		126
GS-2X-4	126	130			119	122	128	121	126		128	120	133		134
GS-2X-5	126	131			124	122	127	125	124		130	121	132		126
GS-2X-6	125	128			121	126	128	128	126		127	117	132		134
GS-2X-7	125	131			124	127	126	126	127		131	121	132		131
GS-2X-8	124	130			125	126	126	122	126		125	124	131		133
GS-2X-9	127	136			124	124	127	123	126		125	122	130		129
GS-2X-10	127	132			124	135	127	124	126		124	122	130		133
Mean	126	131			122	126	127	124	126		127	121	132		130
Std. Devn.	1.269	2.055			2.066	4.062	0.994	2.584	2.119		2.799	2.716	1.287		3.204
% RSD	1.011	1.569			1.688	3.237	0.784	2.079	1.676		2.212	2.237	0.975		2.457
As (ppm) by Aqua Regia digestion /Instrumental finish															
GS-2X-1	94.5	100.0	80.0	92.8	94.9	90.3	89.7	82.9	96.0	90.6	<100	85.4	90		85.7
GS-2X-2	97.5	89.3	78.1	91.8	92.6	90.2	87.6	83.8	87.4	89.0	<100	85.2	92		87.1
GS-2X-3	100.0	99.5	77.2	91.8	93.7	90.6	88.6	85.7	88.5	88.1	<100	85.4	88		85.4
GS-2X-4	95.8	96.6	77.2	91.6	92.4	90.7	87.4	83.3	87.5	91.0	<100	86.2	90		84.9
GS-2X-5	97.5	92.7	78.4	91.5	91.2	91.2	89.3	85.8	88.8	95.9	<100	87.6	89		83.7
GS-2X-6	98.3	101.0	77.6	91.4	91.3	88.8	86.3	86.4	88.2	92.7	<100	85.6	91		85.0
GS-2X-7	95.4	97.9	79.9	90.8	91.9	91.4	89.0	87.4	88.5	87.9	<100	86.4	91		86.0
GS-2X-8	95.1	97.6	77.1	93.6	92.9	91.9	89.3	87.8	88.0	89.7	<100	86.0	92		84.9
GS-2X-9	95.1	97.9	80.6	91.5	92.4	92.4	89.6	87.0	89.0	94.0	<100	85.6	89		86.2
GS-2X-10	95.9	91.1	80.9	94.0	92.0	89.9	90.2	89.0	90.8	90.0	<100	86.2	92		81.2
Mean	96.5	96.4	78.7	92.1	92.5	90.7	88.7	85.9	89.3	90.9		86.0	90		85.0
Std. Devn.	1.747	3.971	1.502	1.037	1.112	1.039	1.227	2.032	2.550	2.605		0.704	1.430		1.621
% RSD	1.810	4.120	1.908	1.126	1.201	1.146	1.383	2.365	2.856	2.867		0.819	1.589		1.907

**Notes:**

Au results assayed by aqua regia digestion from Lab 14 were removed for failing the t test.  
As results assayed by aqua regia digestion from Labs 3 and 11 were removed for failing the t test.

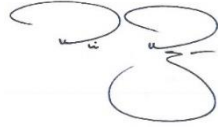
**PARTICIPATING LABORATORIES:** (not in same order as table of assays)

Activation Labs, Ancaster, Ontario, Canada	ALS Canada, North Vancouver, BC, Canada
Activation Labs, Thunder Bay, Ontario, Canada	Argetest-Turkey
AGAT Labs, Ontario, Canada	Bureau Veritas, Perth, Australia
ALS, Brisbane, Australia	Bureau Veritas, Vancouver, BC, Canada
ALS, Johannesburg, South Africa	Certimin S.A., Lima, Peru
ALS Lima, Peru	MS Analytical, Langley, BC, Canada
ALS, Loughrea, Ireland	SGS Perth, Australia
ALS, Perth Australia	

**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



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Geochemist



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