



CANICKEL ANNOUNCES POSITIVE PRELIMINARY ECONOMIC ASSESSMENT AND UPDATED MINERAL RESOURCE ESTIMATE FOR BUCKO LAKE MINE

Vancouver, British Columbia — January 16, 2023 — CaNickel Mining Ltd. (TSX Venture: CML) (“CaNickel” or the “Company”) is pleased to release a summary of the results of a current independent Preliminary Economic Assessment (“PEA”) and Mineral Resource Estimate (“MRE”) on the Company’s Bucko Lake Mine (“the Project”) located 110 km southwest of Thompson, Manitoba near the Town of Wabowden. The PEA outlines a mine life of 13 years with average annual production of 7.8 million pounds of nickel at average cash costs and all-in sustaining costs (“AISC”) per pound of nickel of US\$4.91 and US\$6.48, respectively. All dollar figures in this news release are Canadian unless otherwise stated.

Highlights of PEA

- Current Bucko Lake MRE:
 - Measured and Indicated Mineral Resources of 5.7 million tonnes grading 1.24% nickel (“Ni”) (using a 0.7% Ni cut-off grade) and 0.11% copper (“Cu”) for contained metal content of 156.3 million pounds of nickel and 13.4 million pounds of copper.
 - Additional Inferred Mineral Resources of 10.6 million tonnes grading 1.18% Ni (using a 0.7% Ni cut-off grade) and 0.13% Cu for contained metal content of 275.6 million pounds of nickel and 31.2 million pounds of copper.
- The PEA indicates that the Project would be rehabilitated from its current “care and maintenance” status and placed into operation to produce 101 million pounds of payable nickel over a 13-year mine life.
- Using a base case future life-of-mine (LOM) nickel price assumption of US\$9.84/lb, the Project generates:
 - Pre-tax net present value using a discount rate of 6% (NPV_{6%}) of \$205 million and Internal Rate of Return (IRR) of 32%; and
 - After-tax NPV_{6%} of \$169 million and IRR of 30%
- Sensitivity analysis using a recent spot nickel price of US\$13/lb for LOM, the Project generates:
 - Pre-tax NPV_{6%} of \$531 million and IRR of 65%; and
 - After-tax NPV_{6%} of \$389 million and IRR of 59%
- Initial capital costs of \$87 million (including \$11 million contingency) with payback in 3.3 years.
- The existing 1,000 tonne-per-day (“tpd”) processing plant would be upgraded to 1,500 tpd.
- Average cash costs of US\$4.91/lb Ni and AISC of US\$6.48/lb Ni.
- Opportunities exist for operations to continue beyond the current LOM plan using resources from multiple known satellite deposits on active company claims: three contiguous deposits are located within 4 km from the Bucko Lake Mine, and a fourth deposit is located approximately 30 km away.
- The PEA supersedes the March 31, 2009, Technical Report for the Project and Mineral Reserves are no longer declared for the Project.

“We are encouraged by the positive economics demonstrated by this PEA for the Bucko Lake Mine,” stated Kevin Zhu, CEO of CaNickel Mining Limited. “The Project represents one of the more advanced, higher grade nickel sulphide projects in North America and benefits from existing infrastructure, including a previously operated 1,000 tpd process plant which we placed on care and maintenance due to low nickel prices in 2012. With demand and prices now surging for Class 1 nickel sulphide on the back of increased demand in electric vehicle batteries, production at the Bucko Lake Mine appears to be economically feasible once again.”

Mr. Zhu added: “CaNickel now intends to advance on two fronts in the coming months: (1) review options for restructuring the Company’s \$90+ million in corporate debt; and (2) seek to advance the Project by completing a mine restart and closure plan along with pursuing growth opportunities by updating Mineral Resource Estimates for its four satellite deposits.”



PEA Financial Summary*

General		
Nickel Price (US\$/lb)	9.84	
Exchange Rate (US\$:CDN\$)	0.77	
LOM (years)	13.0	
Production		
Total Ni Production (Mlb)	100.9	
Average Annual Ni Production (Mlb)	7.8	
Operating Costs		
Mining Cost (\$/t Mined)	66.04	
Processing Cost (\$/t Processed)	17.73	
G&A Cost (\$/t Processed)	9.97	
Total Operating Costs (\$/t Processed)	93.74	
NSR Royalty (%)	2.50	
Cash Costs (US\$/lb Ni)	4.91	
AISC (US\$/lb Ni)	6.48	
Capital Costs ("CAPEX")		
Initial Capital (\$M)	86.7	
Sustaining Capital (\$M)	191.8	
Closure Costs (\$M)	14.0	
Financials		
	Pre-Tax	After-Tax
NPV _(6%) (\$M)	205.2	169.4
IRR (%)	32	30
Payback (years)	3.3	3.3

*Cautionary Statement: The Bucko Lake PEA was prepared in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects. Readers are cautioned that the PEA is preliminary in nature. It includes Inferred Mineral Resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA outcome will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Preparation of PEA

The PEA was prepared by independent firm P&E Mining Consultants Inc. of Brampton, Ontario, with geotechnical assistance from Knight Piésold Ltd. and backfill assistance by Paterson & Cooke Canada Inc. The PEA was prepared in accordance with the requirements of National Instrument 43-101 – Standards of Disclosure for Mineral Projects, and has an effective date of January 13, 2023. A Technical Report relating to the PEA, prepared in accordance with NI 43-101, will be filed on www.SEDAR.com and posted on the Company's website within 45 days of this news release.



For the PEA base case, a nickel price of US\$9.84/lb was used. The Company recognizes that nickel prices have been especially volatile recently and readers therefore should review the Project Economics Summary and Sensitivity to Nickel Price chart in Table 6.

Updated Mineral Resource Estimate

The updated MRE incorporates results from a total of 428 drill holes drilled from 1962 to 2013, of which 360 drill holes intersected the mineralization wireframes used for the MRE. Additionally, recent metal prices were incorporated into the estimate for the PEA. The MRE, with an effective date of January 13, 2023, is summarized in Table 1 below.

Table 1: Mineral Resource Estimate used for the PEA

MINERAL RESOURCE ESTIMATE AT 0.70% NI CUT-OFF ⁽¹⁻⁶⁾					
Classification	Tonnes (k)	Ni (%)	Ni (M lb)	Cu (%)	Cu (M lb)
Measured	1,753	1.25	48.32	0.09	3.40
Indicated	3,975	1.23	107.94	0.11	9.99
Measured + Indicated	5,727	1.24	156.26	0.11	13.39
Inferred	10,587	1.18	275.59	0.13	31.15

Notes:

- 1. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability.**
- The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
- The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource. While an Inferred Mineral Resource must not be considered to be, or converted into a Mineral Reserve, it is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.*
- The Mineral Resources in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.*
- Mined areas and barren pegmatite dykes were depleted from the Mineral Resource Estimate.*
- The 0.70% Ni cut-off grade was based on an underground long-hole method mining cost of \$60/t, processing cost of \$33/t, G&A cost of \$12/t, Ni price of US\$8.75/lb, 79% Ni process recovery, 90% smelter Ni payable, 16% mass pull, \$276/dmt smelter treatment charge, \$105/wmt concentrate freight cost, 2.5% NSR royalty, \$1/t penalty charge and \$3/t price participation cost.*

Mineralization domain boundaries were determined from grade boundary interpretation constrained by lithological and structural controls determined from visual inspection of drill hole cross-sections and level plans. The domain outlines were influenced by the selection of mineralized material above 0.70% Ni that demonstrated a lithological and structural zonal continuity along strike and down dip and that had a reasonable prospect of economic extraction. The minimum constrained down-hole sample length for the wireframes was 2.0 m. In some cases, mineralization below 0.70% Ni was included for the purpose of maintaining zonal continuity and minimum mining width. On each cross-section, polyline interpretations were digitized from drill hole to drill hole, however, were not extended more than 25 m into untested territory. The interpreted polylines from each cross-section were wireframed into 3-Dimensional solids. The resulting solids (domains) were used for statistical analysis, grade interpolation, rock coding and Mineral Resource



reporting purposes. Four mineralization domains were constructed for consideration for potential economic underground mining of the Mineral Resource Estimate.

In order to regularize the assay sampling intervals for grade interpolation, a 1.5 m compositing length was selected for the drill hole intervals that fell within the constraints of the above-mentioned Mineral Resource wireframe domains. Grade capping was investigated and applied to the 1.5 m composite values in the database within the constraining domain to ensure that the possible influence of erratic high-grade values did not bias the database. A variography analysis was undertaken as a guide to determining a grade interpolation search strategy. The Ni and Cu grade blocks in the model were interpolated with the Inverse Distance Squared method. The model block size was 2.5 m x 2.5 m x 2.5 m. The Nearest Neighbour interpolation method was utilized for validation.

Additional mineralization at the Bucko Lake property not captured in the PEA include four known satellite deposits located 4 to 30 km distance from the main deposit. These include the Bowden Lake, M11A, Halfway Lake and Apex prospects. All four deposits have historical mineral resources which the Company will update into compliant NI 43-101 Mineral Resource Estimates in the coming months. These satellite deposits represent an opportunity for extending the operational life of the Project, which will be evaluated in future studies.

Underground Mine Development

Despite underground development challenges associated with geotechnical stability experienced during previous operations at the Bucko Lake Mine from 2009 to 2012, there are no significant technical issues to preclude successful mining and processing of the nickel-copper mineralization. Optimization of mining methods and Life of Mine planning with cemented paste backfill hold the key to a successful mine restart and the PEA has adopted the following mine development strategy to overcome previously known issues:

- Rehabilitate and re-use existing development where possible while avoiding stopes in historical production areas:
 - Refit and re-use the existing shaft for broken rock conveyance
 - Rehabilitate and re-use the existing ramp for trackless equipment access
 - Convert the existing 1,000 ft (305 m) Level exploration drift into new primary access on hanging wall (“HW”) side of the deposit
- Change access orientation to the HW from the footwall (FW) to improve geotechnical stability of the parallel wireframed domains.
- Improve the ventilation system by relocating ventilation raises to the HW side of the deposit using raise-bores from the 1,000 ft Level to surface.
- Postpone capital development while mining previously accessed areas.
- FW drifts will allow improved grade selection, bypassing low-grade areas and allowing improvement of the grade profile by targeting more high-grade areas earlier.
- Alimak ventilation raises will be attached to FW drifts to facilitate bypassing of levels in a mining block versus using drop raises, allowing further postponement of lateral development.
- Areas of development to be situated away from weaker ultramafic contact areas. Development will be done either outside the ultramafic unit or fully inside the unit with improved ground support versus previous efforts at the mine. Intersections with the ultramafic unit, while unavoidable, will be minimized.

Mine design and planning were accomplished with the assistance of geomechanical input from Knight Piésold Ltd. based on the review of the historical mine performance, experience at similar operating mines, and empirical methods. Knight Piésold provided numerous recommendations on the PEA underground mine plan.



Paterson & Cooke Canada Inc. reviewed the paste backfill system that was previously installed at the Bucko Lake Mine. The system was installed just prior to mine suspension in 2012 and therefore never commissioned. Recommendations were provided on rehabilitating equipment, completing the paste plant installation and future test work.

Mining Method

The PEA is based on an underground mine operating at a mining rate of 1,500 tpd for a mine life of 13 years. The mining method was selected to ensure maximum geotechnical stability and grade control flexibility while minimizing initial capital expenditure requirements. It is estimated to take one year of pre-production and two years of production to reach the steady-state rate of 1,500 tpd. The underground mine production schedule is summarized in Table 2.

- Long-hole mining, on both transverse and longitudinal orientations, has been chosen as the main mining method with a small subset (~2% of tonnes) of cut-and-fill mining above existing workings.
- The sublevel spacing is set at 20 m (floor to floor) to allow use of top-hammer or in-the-hole drills. Mining will be carried out bottom-up in “blocks” approximately 100 to 150 m in height.
- A stope width of 12 m was selected to limit the hydraulic radius, enhance stability and reduce cable bolting requirements.
- Cemented paste backfill will be utilized to provide improved stope and ground support, to improve stope cycling compared to previous operational backfill practices, and to reduce the amount of tailings stored on surface.
- A modular approach to mining will be used:
 - Stopes will be segregated into high-grade (average 1.31% Ni mined grade) and low-grade (average 0.88% Ni mined grade) areas using a 1.0% Ni mined grade as the nominal split between high and low grades.
 - Low-grade mining areas are deferred where possible to postpone development costs and improve the production grade profile (segregation and selection done both vertically and laterally).
 - A combination of cemented paste backfill, transverse cross-cuts, and top-hammer drills will allow for the extraction of low-grade stopes situated between mined-out high-grade stopes later in mine life using up-hole drilling.
- Mining will be kept above the 1,000 ft Level until high-grade stopes in the area are depleted prior to developing a ramp to the next block to minimize CAPEX. This strategy will be repeated in consecutive blocks until the maximum mine depth of approximately 900 m below surface is reached.
- Initial production will use diesel trucks to haul material to the shaft with later production to use battery-powered electric trucks to limit ventilation requirements as the mine progresses deeper.
- Trucks will not enter FW drifts and load-haul-dump equipment will haul all material to level access re-muck bays where the trucks will be loaded. This allows smaller FW drift profiles and reduces ventilation requirements on the levels.
- Trucks will predominantly haul to the shaft and a portion of the tonnage from above the 1,000 ft Level will be trucked up the existing ramp directly to surface.

Table 2: Production Schedule Summary

Item	Year 1	Year 2	Year 3	Year 4-8 Average	Year 9-13 Average	LOM Total
Tonnes Mined	293,900	486,800	528,000	528,000	514,000	6,516,700
Grade %Ni	1.34	1.28	1.31	1.29	0.91	1.14
Average tpd Mined	835	1,383	1,500	1,500	1,500	1,500



Recovery Methods (Processing)

The Bucko Lake process plant had been designed to process nickel-rich mineralized material from the underground Bucko Lake Mine. Upgrades to the conventional flotation plant have been envisaged to be consistent with the Company's existing permits. The current process plant design includes:

- jaw and cone crushers;
- rod and ball mills;
- flotation circuit with rougher/scavenger/cleaner cells;
- concentrate thickener, Larox pressure filter, concentrate handling facility for transport to smelter
- paste backfill plant; and
- tailings storage facility and water reclaim.

Other than rehabilitation of existing equipment, process plant upgrades to a 1,500 tpd capacity are planned to consist of:

- installation of a secondary cone crusher with associated screens, conveyors and dust collection;
- expanded crushed mineralized material feed bin;
- additional flotation cells, including a column cell for the final cleaning stage;
- rougher concentrate regrind mill; and
- modification and completion of the paste backfill plant, including the installation of vacuum filters.

Based on historical metallurgical testwork and subsequent analysis, the average nickel recovery is estimated to be 79% with an average 13% Ni concentrate grade. Copper and other minor metals are payable at an additional 4% above the Ni NSR payable based on a conservative estimate of historical production information from 2009 to 2012. Concentrate production is estimated to commence at 26,000 tonnes in the first year of operation, subsequently average 42,000 tonnes per year in the peak Ni grade years, and 30,000 tonnes per year thereafter.

Additional Project Infrastructure

In addition to infrastructure that already exists at the Project, the PEA envisages expansion of the tailings storage facility and water treatment plant. An interim tailings storage facility ("ITSF") was initially built before the mine achieved commercial production in 2009. The eight-hectare ("ha") ITSF contains 410,000 tonnes of tailings and is currently at full capacity. A 36.3-ha tailings storage starter cell was constructed in 2011, with a 4.3 ha decant pond. The capacity of the starter dam and pond will be increased during the pre-production period and in the first year of production, in order that the facility can contain 7.5 years of tailings production. Periodic capacity increases will be carried out over the mine life to ensure adequate dam freeboard.

Adequate (grid) electrical supply infrastructure is already in place and currently energized.

Capital Costs

Capital cost estimates are relatively modest given that much of the Project infrastructure is in place. The majority of the costs are related to underground mine rehabilitation and pre-production development, followed by process plant capacity upgrades. The capital cost estimates are summarized in Table 3.



Table 3: Summary of Capital Cost Estimates

ITEM	\$ M
Site and General	5.0
Utilities and Services	2.0
Underground Mine Development	18.1
Underground Mining (All Else)	28.1
Process Plant Equipment and Buildings	13.1
Tailings Management Facility	4.1
Owner's Costs	5.0
Contingency	11.3
Total Capital Cost	86.7

Sustaining capital costs over the life-of-mine are estimated at \$192 million. The costs are primarily for sustained underground mine development and equipment and to incrementally increase the Tailings Management Facility capacity. An additional \$14 million is estimated for closure costs, of which the Company has already paid a \$2.54 million financial security bond.

Operating Costs

The majority of operating costs have been estimated from first principles, with a minor amount of factoring from historical actual site costs, and estimates from P&E's experience at other mines. Concentrate transport, smelting, refining, penalties and price participation costs are based on a sales agreement with Glencore that was established in 2007 before the mine went into production which remains in effect. Operating costs have been summarized in Table 4.

Table 4: Summary of Life-Of-Mine Average Operating Costs

ITEM	Operating Cost (\$/t processed)
Underground Mining	66.04
Processing	17.73
General & Administration	9.97
Total Unit Cost	93.74

Economic Analysis

The financial analysis was carried out using a discounted cash flow methodology, using a 6% discount rate. The discount rate is based on considerations such as the Project being a restart, as opposed to a new operation, within the stable operating environment of the Thompson Nickel Belt of Manitoba which is an area that has a long history of successful mining operations. The financial analysis is summarized in Table 5.



Table 5: Financial Analysis

CASH FLOW (Life of Mine)	\$M
Revenue from Concentrate	1,289.9
(-) Operating Cost	- 610.8
(-) Royalties	- 32.2
(-) Closure Cost	- 14.0
(-) Capital Spending	- 278.6
Pre-Tax Cash Flow (undiscounted)	354.2
Pre-Tax NPV (6% discount rate)	205.2
Pre-Tax IRR (%)	32
(-) Taxes	- 61.3
After-Tax Cash Flow (undiscounted)	292.9
After-Tax NPV (6% discount rate)	169.4
After-Tax IRR (%)	30
After-Tax Payback (years)	3.3

Sensitivity Analysis

To determine the effect of changes in key base case assumptions, P&E prepared a sensitivity analysis reflecting different commodity prices and discount rates (from 6% to 8%) that could have a significant effect on the financial performance of the Project. Using different discount rates has a negligible impact on IRR and Payback. Table 6 below presents a sensitivity of economic parameters to a $\pm 30\%$ change in the nickel price in increments of 10%. Of note is that the current spot price of nickel is approximately 124% of the base case assumption.

Table 6: Project Economics Summary and Sensitivity to Nickel Price

	% of Ni Price	70%	80%	90%	100%	110%	120%	130%
	US\$/lb Ni	6.89	7.87	8.86	9.84	10.82	11.81	12.79
Pre-Tax	NPV _{6%} (\$M)	- 99.5	2.1	103.6	205.2	306.8	408.4	510.0
	NPV _{8%} (\$M)	- 99.5	- 9.3	80.9	171.0	261.2	351.4	441.5
	IRR (%)	n/a	6	20	32	43	53	63
	Payback (years)	n/a	7.6	4.6	3.3	2.6	2.2	2.0
After-Tax	NPV _{6%} (\$M)	- 99.5	2.1	95.0	169.4	242.3	310.1	376.2
	NPV _{8%} (\$M)	- 99.5	- 9.3	73.7	140.8	206.1	266.8	325.8
	IRR (%)	n/a	6	20	30	40	49	57
	Payback (years)	n/a	7.6	4.6	3.3	2.6	2.2	2.0



Permitting Requirements

To restore and upgrade the Bucko Lake Mine including a potential new access road, the existing Manitoba Environment Act License 2808 RR, issued in September 2011 under the Manitoba Environment Act, requires the submission and approval of a Notice of Alteration (“NOA”). The NOA must be reviewed and approved by the Manitoba Conservation and Climate, Environmental Approvals Branch. The NOA will include details of the Bucko Project such as construction activities, timing, emission controls and waste management strategies, as well as environmental effects of the proposed Alteration. Once an NOA has been issued for the Project, and with Manitoba approval, permit and license applications can be submitted for other specific Bucko revitalization-related activities such as mine dewatering and underground rehabilitation, petroleum storage, and hazardous waste management.

The only federal permit or approval required is related to the storage and management of explosives.

Qualified Person

The technical content of this news release has been reviewed and approved by Eugene Puritch, P.Eng., FEC, CET, President and Principal Mining Engineer of P&E Mining Consultants Inc. Mr. Puritch is an independent Qualified Person in accordance with NI 43-101.

Note on Assumptions

The PEA results are based on important assumptions made by the Qualified Persons who prepared the PEA. These assumptions, including those mentioned above, and the justifications for them, will be described in the PEA Technical Report that the Company will file on SEDAR and post on the Company's website within 45 days of this news release.

ABOUT CANICKEL

CaNickel Mining Limited is a Canadian junior mining company that owns the Bucko Lake Mine, currently on care and maintenance, near Wabowden, Manitoba. From 2009 to 2012, nearly 450,000 tonnes of mineralized material were mined to produce 6.9 million pounds of nickel before the mine was put on care and maintenance due to operational challenges and low nickel prices. Today, the Bucko Lake Mine and surrounding satellite deposits continue to host significant nickel sulphide resources grading over 1% Ni.

The mine and surrounding deposits benefit from excellent infrastructure including roads, rail, power, internet, personnel, and equipment. The mine can be accessed and operated all year, and existing mine infrastructure includes a 1,000-tpd processing plant, paste plant, on-site drill core shack, hoist and headframe, fine mineralized material bin, office, dry trailers, compressor room, tailings disposal management area and a 100-person camp.

Further information on the Bucko Lake Mine is available at www.buckolakemine.com and on CaNickel at www.canickel.com or contact:

Shirley Anthony

VP Corporate Development
Phone: 778-999-2771
Email: shirley@canickel.com
Website: www.buckolakemine.com

CaNickel Mining Limited

P.O. Box 35 1655-999 West Hastings Street
Vancouver, British Columbia Canada V6C 2W2



Tel: 778-372-1806 Fax: 604-254-8863

Forward-Looking Statements

This press release may contain forward-looking statements including those describing the Company's future plans and the expectations of management that a stated result or condition will occur. Any statement addressing future events or conditions necessarily involves inherent risk and uncertainty. Actual results can differ materially from those anticipated by management at the time of writing due to many factors, most of which are beyond the control of the Company. In particular, this news release contains forward-looking statements pertaining, directly or indirectly, to the Company's plans regarding bringing, the Bucko Lake Mine back into production, resolving the Company's indebtedness and the economic and operational potential of the Bucko Lake Mine and satellite deposits.

Although the Company believes that the expectations and assumptions on which the forward-looking statements are based are reasonable, undue reliance should not be placed on the forward-looking statements because the Company can give no assurance that they will prove to be correct. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties, actual results could differ materially from those currently anticipated due to a number of factors and risks. These include, but are not limited to, general economic, market or business conditions, risks associated with the exploration and development industry in general (e.g., the outlook for nickel and copper, interest and exchange rates, inflation and capital market conditions, operational risks in development, exploration and production; the uncertainty of Mineral Resource Estimates; the uncertainty of estimates and projections relating to production, costs and expenses, and health, safety and environmental risks).

Readers are cautioned that the foregoing list of risk factors should not be construed as exhaustive. These statements speak only as of the date of this release or as of the date specified in the documents accompanying this release, as the case may be. The Company undertakes no obligation to publicly update or revise any forward-looking statements except as expressly required by applicable securities laws.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.