



Canada Nickel Announces Improved Iron and Chromium Recoveries from Pilot Plant Testing

Highlights

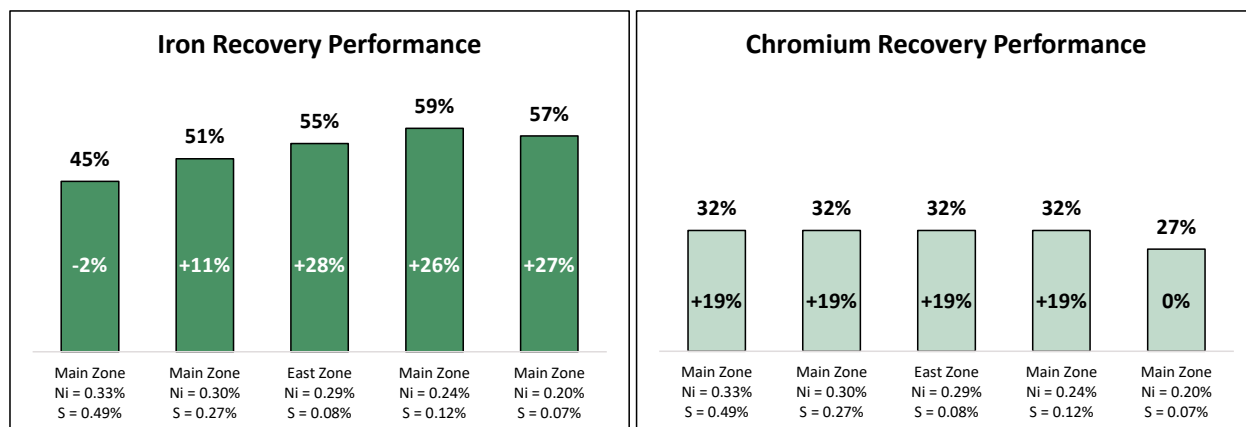
- *Initial phases of pilot plant testing successfully completed*
- *Testing confirms significant improvements in both recovery and product quality from updated magnetite circuit*
 - *18% improvement in iron recovery and 15% improvement in chromium recovery*
 - *16% improvement in iron grade to 55%*
- *Discussions underway with multiple stainless and ferroalloy producers on downstream processing partnership*

TORONTO, November 15, 2022 – Canada Nickel Company Inc. ("Canada Nickel" or the "Company") (TSXV:CNC) (OTCQX:CNIKF - <https://www.commodity-tv.com/ondemand/companies/profil/canada-nickel-company-inc/>) today announced the results from initial phases of pilot plant testing on 34 tonnes of material from the Company's Crawford Nickel Project with the major focus on testing an updated magnetite recovery circuit and generation of both nickel and magnetite concentrates for further downstream testing. While the Crawford Nickel Project is primarily a nickel development project, it can produce value-generating by-products including cobalt, palladium, and platinum contained in the nickel concentrates, and iron and chromium contained in the magnetite concentrate expected to be produced from Crawford.

Mark Selby, Chair and CEO of Canada Nickel commented, "Our updated magnetite flowsheet has delivered outstanding improvements in both product quality and iron and chromium recoveries which we believe could add substantial additional value to the project. The pilot plant performance to date has exceeded our expectations in terms of operability and production and we look forward to the completion of the work on the final phase of nickel concentrate production."

Selby continued "Today's work highlights the potential of this project to be an important producer of multiple critical minerals – nickel, cobalt, palladium, platinum and the *only* North American producer of chromium. We are already in multiple discussions with leading North American and European stainless and ferroalloy producers on downstream processing partnerships for processing this material who are excited by the structural advantages of our project location with its substantial infrastructure, regional history of downstream processing, access to low carbon electricity, and most importantly, the potential to capture carbon emissions using Crawford's In Process Tailings ("IPT") Carbonation Process which would facilitate zero carbon production of downstream steel and ferroalloy products"

Figure 1. Pilot Plant Magnetic Concentrate Recovery Performance



Pilot Plant Overview

In October 2022, Canada Nickel completed the first phase of a 34-tonne pilot demonstration of the Crawford Metallurgical Flowsheet at SGS Canada Inc. in Lakefield, Ontario. The pilot plant was initiated to evaluate the performance of the flowsheet with continuous feed as well as to generate concentrate for downstream flowsheet development work and product marketing purposes. The initial phases of testing, which is reported in this release, included the rougher level flotation stages and the magnetic recovery circuit, each of which exceeded expectations in terms of operability and production. The remaining phase of testing, which is scheduled to be completed in November 2022, will involve the final cleaning stages of the intermediate flotation concentrate. This release reports on the results achieved from the magnetic recovery circuit which delivered improved iron and chromium recoveries and improved concentrate grades relative to what was modelled in Crawford’s Preliminary Economic Analysis (“PEA”).

For the pilot exercise, five composites, ranging in size from 4 to 7 tonnes, were built from 53 samples of large diameter drill core from 19 holes to represent different lithologies and mineralization styles from across the deposit with a focus on the expected project payback period to be used in the feasibility study. Table 1 summarizes the feed characteristics of each of the composites, the achieved iron, chromium and nickel recoveries into the magnetic concentrate, as well as the modelled recoveries that were used in the PEA with the following comments:

- The pilot plant is delivering improved iron and chromium recoveries and at an improved concentrate grade relative to the PEA.
- Composites tested were from both the Main and East zones across both dunite and peridotite lithologies, with nickel head grades in the range of 0.20 – 0.33% and sulphur head grades of 0.07 – 0.49%.
- Four out of five of the composites tested achieved iron recoveries that were higher than what was modelled in the PEA, with an average improvement of 18% in recovery.
- All five of the composites achieved or exceeded the chromium recoveries that were assumed in the PEA, with an average recovery of 31% that represents a 15% improvement in recovery.
- Nickel recovery to the magnetic concentrate was in the range of 3 – 8% with an average of 5%. As expected, samples with a lower sulfur head grade, that contain the magnetic mineral awaruite ($\text{Ni}_{2.5}\text{Fe}$) showed higher recoveries of nickel to the magnetic concentrate.

Table 1. Pilot Plant Recovery Summaries - Composites

Sample	Lithology	Head Grades (%)				Magnetic Concentrate Recovery (%)			% Improvement vs PEA	
		Ni	S	Fe	Cr	Fe	Cr	Ni	Fe	Cr
1	Dunite	0.33	0.49	6.5	0.58	45	32	3	- 2%	+ 19%
2	Dunite	0.30	0.27	7.0	0.50	51	32	3	+ 11%	+ 19%
3	Dunite	0.29	0.08	6.1	0.65	55	32	8	+ 28%	+ 19%
4	Dunite	0.24	0.12	6.9	0.62	59	32	4	+ 28%	+ 19%
5	Peridotite	0.20	0.07	7.3	0.53	57	27	7	+ 27%	0%
Average Improvement									+ 18%	+ 15%

Table 2 summarizes the composition of the final magnetic concentrates that were produced for each of the composites. Iron grades were very consistent between 54-57% with an average iron grade across the five composites of 55%, which is 7.5 percentage points, or 16% higher than was modelled in the PEA. As expected, chromium grades across the five composites were in the range of 2.1 – 3.6% with an average of 2.8%. While pilot plant testing used a broad base of samples focused on the payback period, final iron and chromium grades and recovery used in the feasibility study will be determined based on application of grade and recovery models derived from laboratory open circuit and locked cycle testing. With high levels of both iron and chromium in the magnetic concentrate, this product is an excellent feed for the production of ferritic or other nickel and chrome containing steel alloys.

Table 2. Magnetite Concentrate Quality

Sample	Lithology	Magnetic Concentrate Quality (%)					Improvement versus PEA Iron grade	
		Fe	Cr	Ni	S	MgO	Absolute	%
1	Dunite	55	3.6	0.17	0.50	7.8	+ 7.5	+ 16%
2	Dunite	57	2.5	0.14	0.18	8.2	+ 9.5	+ 20%
3	Dunite	56	3.3	0.33	0.03	8.7	+ 8.5	+ 18%
4	Dunite	54	2.6	0.15	0.05	9.0	+ 6.5	+ 14%
5	Peridotite	55	2.1	0.20	0.01	8.9	+ 7.5	+ 16%
Average Improvement							+ 7.5	+ 16%

Stainless / Ferroalloy Downstream Discussions

The Company is already in multiple discussions with leading North American and European stainless and ferroalloy producers on downstream processing partnerships for processing this material who are excited by the structural advantages of our project location and, most importantly, the potential to capture carbon emissions using Crawford’s IPT Carbonation process which would facilitate zero carbon production of downstream steel and ferroalloy products. The Company has engaged SMR – Steel & Metals Market Research GmbH, a global leader in providing market intelligence covering specific segments or entire markets for the global Speciality and Stainless Steel Industry, to assist the Company in these endeavours.

Qualified Person and Data Verification

Arthur G. Stokreef, P.Eng (ON), Manager of Process Engineering & Geometallurgy and a “qualified person” as such term is defined by National Instrument 43-101, has reviewed and approved the technical information in this news release on behalf of Canada Nickel Company Inc.

About Canada Nickel

Canada Nickel Company Inc. is advancing the next generation of nickel-sulphide projects to deliver nickel required to feed the high growth electric vehicle and stainless steel markets. Canada Nickel Company has applied in multiple jurisdictions to trademark the terms NetZero Nickel™, NetZero Cobalt™ and NetZero Iron™ and is pursuing the development of processes to allow the production of net zero carbon nickel, cobalt, and iron products. Canada Nickel provides investors with leverage to nickel in low political risk jurisdictions. Canada Nickel is currently anchored by its 100% owned flagship Crawford Nickel-Cobalt Sulphide Project in the heart of the prolific Timmins-Cochrane mining camp. For more information, please visit www.canadanickel.com.

About SMR – Steel & Metals Market Research GmbH

SMR is specialized in providing market intelligence, covering specific segments or entire markets of the global stainless and special steel industry. Since its foundation in 1994 by Markus Moll, SMR has been devoting itself to its three core competences: market studies, market reports and the organization of conferences & seminars. The results of SMR’s research projects are based on a vast scale data-collection, compiling present and historical information about the supply side (production), trade (exports and imports) and demand side (consumption) of the specific steel products in question. Through the company’s Stainless Club SMR offers 24/7 access to up-to-date market data, prices and strategic analysis for the stainless steel industry to their customer base, which comprises of leading specialty steel producers, traders as well as their raw material and technology suppliers.

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Cautionary Note and Statement Concerning Forward Looking Statements

This press release contains certain information that may constitute "forward-looking information" under applicable Canadian securities legislation. Forward looking information includes, but is not limited to, Iron and chromium recoveries from the study, the carbon capture approach could allow production of Net Zero nickel and generation of an additional tonnes of CO₂ credits per tonne of nickel produced after offsetting all emissions, the potential to turn nickel mine into a generator of carbon credits rather than generator of carbon emissions, the production of estimated average of 710,000 tonnes of carbon credits

annually and 18 million total tonnes of CO₂ of credits over expected life of mine at Crawford, the ability to monetize carbon credits, the ability to quantify carbon capture, emission estimates, the brucite content of the deposit, the scalability of the process, the metallurgical results, the timing and results of the feasibility study, the results of Crawford's PEA, size and ranking of project upon achieving production, economic return estimates, the timing and amount of estimated future production and capital, operating and exploration expenditures and potential upside and alternatives. Readers should not place undue reliance on forward-looking statements.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Canada Nickel to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The PEA results are estimates only and are based on a number of assumptions, any of which, if incorrect, could materially change the projected outcome. There are no assurances that Crawford will be placed into production. Factors that could affect the outcome include, among others: the actual results of development activities; project delays; inability to raise the funds necessary to complete development; general business, economic, competitive, political and social uncertainties; future prices of metals or project costs could differ substantially and make any commercialization uneconomic; availability of alternative nickel sources or substitutes; actual nickel recovery; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; accidents, labour disputes, the availability and productivity of skilled labour and other risks of the mining industry; political instability, terrorism, insurrection or war; delays in obtaining governmental approvals, necessary permitting or in the completion of development or construction activities; mineral resource estimates relating to Crawford could prove to be inaccurate for any reason whatsoever; additional but currently unforeseen work may be required to advance to the feasibility stage; and even if Crawford goes into production, there is no assurance that operations will be profitable.

Although Canada Nickel has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. Forward-looking statements contained herein are made as of the date of this news release and Canada Nickel disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.