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NORTH AMERICAN NICKEL INC. ANNOUNCES ITS 2010 SUDBURY, ONTARIO EXPLORATION PLANS; TSX VENTURE APPLICATION SUBMITTED

Vancouver, B.C. – September 24, 2010 – North American Nickel Inc. (OTCbb: "WSCRFF"; CUSIP: 65704T 108) is pleased to update shareholders on its Sudbury, Ontario exploration plans for the rest of 2010.

Exploration is about to resume on North American Nickel (NAN) Sudbury properties. This follows the recently completed \$100,000 work program undertaken on its property of merit, the Post Creek property. The Company's TSX Venture application, and the accompanying NI43-101 technical report on Post Creek, has been submitted to the TSX.

The Sudbury mining camp was discovered in 1856 when Alexander Murray reported sulphide minerals in a Geological Survey of Canada report. The Sudbury camp and the Noril'sk region in Russia are regarded as the most prolific nickel sulphide producing districts in the world.

Geologically, the Sudbury Structure is the remnant of a deformed 1.85 billion year old meteor impact crater. It is of exceptional economic significance having produced 40 billion lbs of nickel, 36 billion lbs of copper, 70 million ounces of platinum, palladium and gold and 283 million ounces of silver recovered from more than 77 nickel-copper-platinum group element deposits and two minor Zn-Pb-Cu deposits. Total historic production and current known reserves in Sudbury represent one trillion dollars in value based on 2007 metal prices. Most recently, the discovery of new Cu-Ni-PGE resources in the Camp indicates there is additional ore to be found in the district. New discoveries include the Podolsky Mine and the Totten Cu-Ni-PGE deposit along the Whistle Offset and the Worthington Offset, respectively and footwall deposits such as Nickel Rim South and Vale's 153 deposit.

North American Nickel Sudbury Properties

POST CREEK

The Whistle Offset Structure

The Post Creek property is known to host two distinctive types of mineralization: the Offset environment with copper-nickel-platinum group element-gold within the Whistle Offset Structure, and the copper-zinc base metal massive sulphide type mineralization represented by the historic Maki Zn-Cu occurrence. Both styles of mineralization have been the focus of ongoing exploration since North American Nickel acquired the property.

The Whistle Offset Structure hosts multiple deposits of Cu-Ni-PGE mineralization at Quadra-FNX's currently producing Podolsky Cu-Ni-PGE-Au mine. The average grade for the Podolsky Mine is 3.2% Cu, 0.3% Ni and 3.4 g/t Pt+Pd+Au with a mine life planned to continue past 2015. The Post Creek property is approximately 1.5 km northeast of the Podolsky Mine, along the Whistle Offset Structure, so the importance of this geologic feature cannot be underestimated for Post Creek exploration.

Historic work

Drilling between 2002 and 2006 on the Post Creek property included 16 drill holes collared to test a variety of shallow targets in the Whistle Offset Structure. Examples of mineralized zones intersected by these holes include a 4 metre intersection of fine-grained disseminations, blebs and laminae of chalcopyrite in a silicified and clay-altered non-inclusional gabbro dyke. Assay results within this 4 m section indicated maximum values of 0.68% copper over 1 m. Another intersection included a 0.6 metre near solid to solid sulphide zone/vein grading 0.48% copper, 0.08% nickel, 53 parts per billion (ppb) palladium, 34 ppb platinum and 20 ppb gold in rocks described as footwall breccia.

The Maki Zn-Cu occurrence is an example of a base metal massive sulphide type deposit on the Post Creek property. Historic exploration as early as 1959 documented high-grade base metal assays of 9.72% Zn, 3.72% Cu and 0.69 g/t Au in grab samples from trenches. The area of this mineralized zone will be prospected, historic trenches mucked out and mapped in detail. Deep-looking ground geophysical surveys will be utilized to provide targets for diamond drilling

2010 exploration to date

NAN's exploration over the past several months at Post Creek included: detailed geological mapping of recently discovered potentially Ni-Cu-PGE-bearing breccia units; soil geochemical surveys over historic induced polarization anomalies; ground electromagnetic surveys (beep mat) to detect shallowly buried mineralization; and, excavator overburden removal to expose outcrop in areas interpreted to be important to assessing the Ni-Cu-PGE and copper-zinc potential on the property. It is noteworthy that historic exploration in the vicinity of these breccias confirmed their Ni-Cu-PGE potential with the collection of a small angular float sample from the north-easterly projection of the Whistle Offset Dyke Structure that assayed 0.83% Ni, 0.74% Cu, 0.07% Co, 2.24 g/t Pt and 1.05 g/t Pd.

NAN's results to date include the discovery of a large number of electromagnetic anomalies in the near-surface environment that will be assessed with additional excavator work and channel and chip sampling of uncovered mineralized zones. The breccias uncovered by the excavator will be assessed after comparison with historic geophysical surveys to determine if conductive targets are present. Any coincidence between the breccias and conductive anomalies indicates these targets are potentially Ni-Cu-PGE mineralized zones.

Fall 2010 exploration program

All exploration databases are being integrated and described in an assessment report to be submitted to the Ontario Mining recorder. The data are being used to identify targets for the fall exploration program. The exploration program planned for September through December of 2010 will include the re-logging, sampling for geochemistry and thin section preparation of core samples from historic diamond drill programs and the continuation of "beep mat" shallow electromagnetic and magnetic surveys in areas of geological, geophysical and geochemical significance. Where overburden obscures areas of significance additional excavator-assisted overburden removal will be undertaken.

2011 drilling will focus on untested areas of historic induced polarization anomalies within the Whistle Offset Structure and results from the fall, 2010 exploration program. A second focus for drilling will be to test the deeper portions of the Whistle Offset Structure and undercut historic drill holes which intersected disseminated to near solid mineralization in association with fragmental and massive gabbroic rocks.

HALCYON

The Company acquired the Halcyon property due to its location along the northeast strike extension of the Whistle Offset Structure and has significant potential to host nickel-copper-platinum group mineralization. It is adjacent to and northeast of the Post Creek property. The initial work program for this fall will be searching assessment files to acquire geophysical, geological and geochemical survey data from the Ontario Government and private survey institutions. These data will be entered into a digital environment for subsequent integration with detailed geologic mapping. This database will form the basis for detailed ground exploration and drill targeting.

BELL LAKE

The Bell Lake property straddles the Mystery Offset Dyke which is the southwest extension of the Worthington Offset Dyke where multiple zones of nickel-copper-platinum group mineralization have been mined and where a new mine (Totten "7.85 tons grading 1.5% Ni and 2.03% Cu") will soon be in production.

Four km to the northeast of the Bell Lake property and along the Worthington Offset Structure, deep drilling by Quadra-FNX on their Victoria property has established the presence of significant mineralized zones. Recent drill intersections (May, 2010) include "1,367 feet of 1.3% copper, 0.6% nickel and 2.2 grams/tonne ("g/t") total precious metals" ("TPM"). Follow-up drilling in September of 2010 intersected multiple zones of mineralization including "624 feet of 1.9% copper, 1.7% nickel and 4.1 g/t TPM, 308 feet of 2.1% copper, 3.1% nickel and 5.1 g/t TPM and 71 feet grading 4.1% copper, 2.0% nickel and 60.1 g/t TPM".

Building the Bell Lake property's database will be the Company's initial priority. Previously commissioned geophysical surveys including Quantec's deep looking Titan 24 are being considered for purchase for NAN's use. All data, including results from historic diamond drilling will be compiled and entered into a digital environment for integration for subsequent exploration databases.

WOODS CREEK

The Woods Creek property is located in Hyman Township about 50 km west of Sudbury and comprises eight contiguous unpatented mining claims covering 1,264 hectares. The style of mineralization and the geological setting on this property are similar to those at Ursa Major's currently producing Shakespeare nickel-copper mine. A program of detailed geologic mapping will be accompanied by excavator-based overburden stripping on the Woods Creek property. The targets of disseminated nickel-copper-platinum group element plus gold mineralization are often buried beneath glacial overburden making direct observations impossible. The program will include assays from chip and channel samples.

All technical information in this release has been reviewed by Dr. Mark Fedikow, P. Geo. who is the President, Chief Operating Officer and Qualified Person for the Company.

About North American Nickel

North American Nickel is a mineral exploration company with properties in the Sudbury, Ontario and Thompson, Manitoba mining camps. The Company's initial focus is on two Sudbury, Ontario properties. The Post Creek property is strategically located adjacent to the producing Podolsky copper-nickel-platinum group metal deposit of Quadra FNX Mining. The property lies along the extension of the Whistle Offset dyke structure, which is a major geological control for Ni-Cu-PGM mineralization. The Bell Lake property is a 256-acre property that covers approximately one kilometre of the Mystery Offset dyke or MOD. The MOD is interpreted to be an extension of the Worthington Offset dyke which is a 10 to 11 kilometre-long mineralized structure that extends from the southwest margin of the Sudbury igneous complex. The Company also has option to acquire 100% ownership in the Woods Creek and Halcyon properties in the Sudbury area; and has acquired 100% ownership in the high-grade Ni-Cu-PGE South Bay property near Thompson, Manitoba and the large grassroots Thompson North and Cedar Lake properties, which are part of the world-class Thompson Nickel Belt in Manitoba. North American Nickel Inc. is a member of the North Shore Mining Group.

Statements about the Company's future expectations and all other statements in this press release other than historical facts are "forward looking statements" within the meaning of Section 27A of the *Securities Act of 1933*, Section 21E of the *Securities Exchange Act of 1934* and as that term defined in the *Private Litigation Reform Act of 1995*. The Company intends that such forward-looking statements be subject to the safe harbours created thereby. Since these statements involve risks and uncertainties and are subject to change at any time, the Company's actual results may differ materially from the expected results.

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