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NORTH AMERICAN NICKEL INC. REPORTS HIGH-GRADE COPPER, GOLD AND SILVER ASSAYS IN OUTCROP FROM THE WHISTLE OFFSET STRUCTURE ON ITS POST CREEK PROPERTY, NORTH RANGE, SUDBURY BASIN, ONTARIO

Vancouver, B.C. – January 10, 2011 – North American Nickel Inc. (OTCbb: "WSCRF"; CUSIP: 65704T 108) is pleased to update shareholders regarding the discovery of high grade mineralization in outcrop at its flagship Sudbury property, Post Creek. It has been the focus of ongoing exploration since North American Nickel acquired the property. It is located along the Whistle Offset Structure; 1.5 km northeast of Quadra-FNX's producing Podolsky Mine.

The table below reports multiple high grade assay results from outcrop at Post Creek including:

- 15% copper, 29 g/t gold and 18.7 g/t silver

The Post Creek assay results document the presence of high-grade precious and base metal mineralization in recently uncovered breccia units along trend from the Podolsky Mine. Table 1 summarizes the assay results for representative outcrop rock chip samples collected <2 km from the northern boundary of the Podolsky mine property. The sampled mineralization is strongly elevated in copper, gold and silver and also contains low grade nickel, cobalt, platinum and palladium.

| Table 1. Summary of elevated base and precious metal assays, Whistle Offset Structure, Post Creek. | | | | | | | | | | | |
|---|-------|--------|--------|--------|--------|--------|----------|--------|--------|--------|--------|
| Over-range assays in red highlight. | | | | | | | | | | | |
| ANALYTE | Wt Kg | Au | Au | Pt | Pd | Ag | Ag | Cu | Cu | Co | Ni |
| METHOD | WGH79 | FAI313 | FAG303 | FAI313 | FAI313 | ICP40B | AAS21E | ICP40B | ICP90Q | ICP40B | ICP40B |
| DETECTION | 0.001 | 1 | | 10 | 1 | 2 | | 0.5 | 0.01 | 1 | 1 |
| UNITS | kg | ppb | | ppb | ppb | ppm | | ppm | % | ppm | ppm |
| E5105100 | 0.807 | >10000 | 29 g/t | 20 | 6 | >10 | 18.7 g/t | >10000 | 15.0 | 95 | 166 |
| E5105101 | 1.116 | 1500 | | <10 | 3 | 2 | | 569 | | 79 | 108 |
| E5105102 | 0.804 | 82 | | <10 | 5 | <2 | | 934 | | 45 | 101 |
| E5105103 | 0.741 | 279 | | <10 | 3 | <2 | | >10000 | 1.93 | 37 | 31 |
| E5105110 | 0.328 | >10000 | 17 g/t | 10 | 4 | 7 | | >10000 | 1.08 | 73 | 99 |
| E5105111 | 0.48 | 403 | | 10 | 6 | <2 | | 571 | | 57 | 42 |
| E5105112 | 0.784 | 1480 | | <10 | 2 | <2 | | 1050 | | 22 | 22 |

Dr. Mark Fedikow, President and COO, states: "the presence of high-grade Cu, Au and Ag assays along the projection of the Whistle Offset Structure on the Post Creek property substantiates our focused exploration in this area. In the coming months, further work will be required to determine the geologic setting and the extent of the mineralized zones in preparation for geophysical surveys and a planned

diamond drill program. The presence of five mineralized zones documented from the Whistle Offset Structure including the high-grade mineralization discovered by North American Nickel at Post Creek; Vale's past-producing Whistle open pit mine; the North deposit northeast of Podolsky Mine; and the 2000 and Grey Gabbro deposits at Podolsky, as well as the results of historic exploration, underscores the significance and potential of this offset structure on Post Creek."

The detailed exploration program by North American Nickel at Post Creek has focused on near-surface mineralized zones along the Whistle Offset Structure using shallow-looking Beep Mat electromagnetic and magnetic surveys followed by mechanical excavator removal of overburden in areas of geophysical response, outcrop washing, chip sampling of any exposed mineralization and detailed geologic mapping of the newly exposed bedrock. This approach has resulted in the discovery of previously unrecognized breccia units mineralized with disseminations, blebs and laminae of chalcopyrite, pyrite and pyrrhotite which were subsequently chip sampled and submitted for analysis to SGS Mineral Services (Toronto, Ontario). Sample preparation and assay procedures are described below.

North American Nickel believes these strongly elevated Cu, Au and Ag assays are significant and indicative of mineral potential along the Company's portion of the prolific Whistle Offset Structure. NAN crews have returned to the area of these high-grade results to channel sample available outcrop to provide a better appreciation for the extent and nature of the base and precious metal mineralization. It is expected that additional mineralized outcrop will be created with the use of an excavator to more accurately determine the geologic setting of the mineralization.

Historic drilling along this trend on the Post Creek property between 2002 and 2006 intersected a variety of styles of mineralization including 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 metre section indicated maximum values of 0.68% copper over 1 metre. 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. Historic outcrop and float sampling in the vicinity of these breccias confirmed the suspected Ni-Cu-PGE-Au potential with assay results of 0.83% Ni, 0.74% Cu, 0.07% Co, 2240 g/t Pt and 1050 g/t Pd.

Sample Preparation and Assay

Rock Preparation “PRP89” (SGS Mineral Services-Rock Preparation Facility in Garson): Dry <3 kg, crush to 75% passing 2 mm, split to 250 g and pulverize to 85% passing 75 micron.

Analysis:

1. ICM-40B:49 elements by four-acid digest with ICP-AES and ICP-MS finish; over-range results for Cu ICP90Q), Pb, Zn, Ni and Co by fire assay.
2. Fire Assay FAI313/FAG303: Au, Pt and Pd

Qualified Person

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

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 Structure, which is a major geological control for Ni-Cu-PGM-Au 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.

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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