Starfield Resources Scoping Study Re-confirms Economic Potential at Ferguson Lake Project

21.02.2012 | CNW

TORONTO, Feb. 21, 2012 - Starfield Resources Inc. ('Starfield', 'the Company') today announced the completion of the update to the Preliminary Economic Assessment (PEA) of its 100%-owned Ferguson Lake project located in Nunavut prepared by RPA (formerly Scott Wilson RPA).

This study was originally completed in April 2008. The updated version, dated November 30, 2011, reflects engineering and exploration work completed since 2008. A copy of the report will be available on sedar.com.

Highlights

- Undiscounted pre-tax cash flow $4,484 million over 20 year mine life

- Pre-tax IRR of 16.8% and a CDN$1,061 million NPV at an 8% discount rate.

- At current metal prices (November 22, 2011) of US$8.05 nickel, US$3.36 copper and US$14.50 cobalt, as well as $100 per tonne hematite and $100 per tonne acid, the project has an undiscounted pre-tax flow of $3.3 billion and an IRR of 13.6%.

- Production anticipated at 25.6 million lbs. nickel, 41.6 million lbs. copper, and 2.9 million lbs. cobalt annually.

- Average NSR value of $239 per tonne

- Total average operating costs of $88.43 per tonne milled.

- Resources sufficient to enable operations for 20-year mine life

- Capital costs estimated to be CDN$1.58 billion (life of mine)

- Hydromet process allows for very economical operations by northern standards, with by-product electrical power generation

'I'm extremely pleased that the PEA continues to indicate a very viable project at Ferguson Lake,' said Philip S. Martin, President and CEO. 'We believe that the new study was completed to the highest standards using very conservative estimates particularly with respect to capital costs, which will allow us to bypass a prefeasibility study and go directly to a full feasibility study in the future. In addition there are many potential project upsides that have not been factored into the study.'

East Zone Mineral Resources have not been considered for the purposes of this PEA, as they are lower grade, do not contain estimates for cobalt grades, and are physically isolated from the Main West Zone and West Extension (on the opposite side of Ferguson Lake). There is, however, the potential to extend the mine life in future studies, by inclusion of the East Zone. The PEA also does not include the recovery of PGE's and therefore excludes the potential of the low-sulphide, PGE style of mineralization located adjacent to and below the subject massive sulphide resource. The PEA also does not include the 2011 drill results for core holes FL11-430 and FL11-432 (the results of which appear in the November 10, 2011 press release), which potentially extend existing mineralization of the West Zone to the southwest by 350 metres. Finally, minimal net value was placed on the sulphuric acid produced as a by-product credit, as customer contracts and related transportation costs are not yet negotiated.

The PEA was prepared under the supervision of Messrs. Graham Clow, P.Eng., President and CEO of RPA of Toronto, and Normand Lecuyer, P.Eng., Principal Mining Engineer for RPA both of whom are Independent Qualified Persons as defined under NI 43-101. Mineral Resources on which the PEA is based used CIM definitions and included all diamond drilling up to and including 2008. The resource estimate was prepared by Jamie Lavigne, P. Geo., Associate Consulting Geologist with RPA an Independent Qualified Person, as defined under NI 43-101.

The PEAstudy for Ferguson Lake is based on the following general assumptions:

- Indicated Resources of 15.8 million tonnes grading 0.65% nickel, 1.00% copper, 0.07% cobalt, and Inferred Resources of 20.8 million tonnes grading 0.67% nickel, 1.11% copper, and 0.08% cobalt (excluding the East Zone).

- The Met plant feed of 40.3 million tonnes grading 0.61% nickel, 0.98% copper and 0.07% cobalt, using appropriate mining dilution and typical mining losses factors.

- Mineral resources were estimated at NSR cut-off grades of $53 and $97 per tonne for open pit and underground, respectively.

- Ore production rate of 6,000 tonnes per day, or 2.1 million tonnes per year, using mechanized cut and fill mining.

- Grinding facilities at Ferguson Lake

- 285 km slurry pipeline to the process plant site

- Port and ship loading facilities at Arviat

- Average annual production of 25.6 million lbs. of nickel, 41.6 million lbs. of copper, 2.9 million lbs. of cobalt, and 0.85 million tonnes of sulphuric acid

- Base case revenue model utilized prices of US$10.00 per pound nickel, US$3.50 per pound copper, US$20.00 per pound cobalt, $125 per tonne hematite, which resulted in a pre-tax IRR of 16.8% and a pre-tax NPV of $1,061 million at a 8% discount rate

- Total Met plant feed tonnes and grade to be 40.3 million tonnes grading 0.61% nickel, 0.98% copper, and 0.07% cobalt

- An average operating cost of CDN$88.43 per tonne milled

The pre-tax Internal Rate of Return (IRR) is 16.8%. Pre-tax Net Present Value (NPV) of the project at various discount rates is as follows:

- Pre-tax NPV @ 5% $1,872 million
- Pre-tax NPV @ 8% $1,061 million
- Pre-tax NPV @ 10% $692 million

Capital costs are estimated to be CDN$1.58 billion (life of mine). The scoping study was designed to provide the best return on investment and there were no constraints placed on initial capital investment. Capital costs include a large tank farm, development of the hydromet process, a slurry pipeline (estimated to cost CDN$130 million) and an overhead power transmission line. Capital costs of the project are somewhat higher than originally planned, but are expected to create an operating cost structure that is at the low end of industry standards for northern operations.

The Ferguson Lake project will initially consist of a small open pit mine. Plans call for further development into an underground mine within one year. Infrastructure is to include a processing plant onsite at Ferguson Lake to crush, clean and grind massive sulphides into slurry. A 285-km pipeline, as the crow flies, will transport the slurry from Ferguson Lake to a metallurgical processing plantsite located at Arviat. The two facilities will also be connected by a 285-km 11-megawatt power line that follows the same path as the slurry pipeline.

The hydrometallurgical processing plant will extract pure, LME-grade nickel, copper and cobalt metals from the Ferguson Lake massive sulphides at very competitive production costs. Unlike most metallurgical extraction processes, this environmentally friendly method generates no toxic residues, recycles key reagents within the process, and produces sufficient electricity directly from the massive sulphides to power both the plant and the mine, with some excess electricity left over for potential sale.

The electricity will be produced from steam generated as a result of burning the hydrogen sulphide gas generated from the first stage of leaching. This generates a vast amount of heat while producing a saleable reagent (sulphuric acid) and superheated steam from which to generate the electricity. 'There is currently a major shortage of sulphuric acid, which is expected to continue for the foreseeable future.

'A lot of planning and innovation went into this study,' said Mr. Philip S. Martin. 'Our ability to generate our own electricity results in very economical operations, and our proximity to deep water shipping will make it

easier for resupply and by-product transportation. As previously disclosed, the Company is seeking strategic partners who are appropriately suited to the long term development of the Ferguson Lake assets, and other assets of the Company.'

The PEA is preliminary in nature, and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the reserves development, production and economic forecasts on which this scoping study is based will be realized.

About Starfield

Starfield Resources Inc. is an advanced exploration and development stage company. The Company's primary asset is its Ferguson Lake nickel-copper-cobalt-platinum-palladium property in Nunavut, Canada. Additional assets include a nickel-copper-cobalt-PGE-chrome project in the Stillwater district of Montana with historic copper, nickel, chromite resources (non 43-101 and not to be relied on); the Superior Mine Project formerly referred to as the Moonlight copper project in California with two significant copper prospects, one of which has a historical copper resource; and one gold property in Nevada that is under option to another company.

Starfield has also funded the development of a novel, environmentally friendly and energy efficient hydrometallurgical flow sheet to recover metals from massive sulphides.

Forward-Looking Statements

This news release may contain certain information that constitutes forward-looking statements. Forward-looking statements are frequently characterized by words such as 'plan,' 'expect,' 'project,' 'intend,' 'believe,' 'anticipate' and other similar words, or statements that certain events or conditions 'may' or 'will' occur. Forward-looking statements are based on the opinions and estimates of management at the date the statements are made, and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. These factors include the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drilling results and other geological data, fluctuating metal prices and other factors described above and in the Company's most recent annual information form under the heading 'Risk Factors' which has been filed electronically by means of the Canadian Securities Administrators' website located at www.sedar.com. The Company disclaims any obligation to update or revise any forward-looking statements if circumstances or management's estimates or opinions should change. The reader is cautioned not to place undue reliance on forward-looking statements.

/NOT FOR DISTRIBUTION TO U.S. NEWSWIRE SERVICES OR FOR DISSEMINATION IN THE U.S./

CONTACT:

Starfield Resources Inc.
Philip S. Martin, President and CEO
416-860-0400 ext. 222
pmartin@starfieldres.com

Greg Van Staveren, Chief Financial Officer
416-860-0400 ext. 223
gvanstaveren@starfieldres.com

Don Shaxon
Investor Relations
416-860-0400
dshaxon@starfieldres.com
www.starfieldres.com