



DNI Metals

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DNI Metals: exploring for low margin, high volume operations - "the Wal-Mart" of mining

DNI Metals Inc. (CVE:DNI) is engaged in exploring for not only what promises to be a very unusual kind of mineral deposit, says president and chief executive officer Shahé Sabag, but what is looking like "the Wal-Mart of mineral deposits with potential for low margin, high volume mining operations that can be exceptionally profitable."

The six contiguous black shale deposits in northern Alberta on which the Toronto-headquartered company is actively focused have the potential, mining veteran Sabag says, for decades of mine life -- up to a century -- across what he calls "a cocktail of base metals" which includes molybdenum, nickel, copper, zinc, cobalt, uranium, vanadium, lithium, and rare earth elements.

"These types of deposits typically deliver mines that have very long mine lives, in the order of 50 to 100 plus years. They're things that give you a long term steady supply of metals."

DNI has what Sabag calls "a fairly large land position," and certainly, the 2700 sq km extent of the property equates to the size of the entire oil sands region.

The area of chief interest at the moment, the Buckton zone which is scheduled to be the subject of a scoping study expected out in October -- has already been the subject of several resource expansions, bringing it to a size "where it started making sense from a financial modelling perspective," says Sabag. "These things have to be very large to pay." The Buckton zone is one of six mineralized zones discovered on the property.

The most recent resource study report, published in September, successfully expanded the Buckton inferred resource from 3.5 billion short tons to 4.9 billion short tons, in addition to upgrading a portion of the inferred class to the indicated category by delineating an indicated mineral resource of 300 million short tons. The inferred and indicated resources on the zone together extend over 21.9 sq km.

These deposits represent a mother lode that amounts to an embarrassment of riches, albeit, one that was locked up until recently.

As highly mineralized as black shales are known to be, "getting the metals out of them has been a bit of a challenge because everything's in a very, very fine form," says Sabag. This is where bio-heap leaching comes in.

The recovery of materials has been made feasible by recent advances in bio-heap leaching, a technology that also speaks to the constant pressure being put on the industry to lessen mining's environmental impact while at the same time seeking to develop ever larger deposits.

The process commences once ore is crushed into large piles, from there making use of air, water, sulphur and microbes to leach out minerals. A solution made from bio-organisms harvested from the rock is dripped through the pile, causing the chemical and biological reaction that dissolves the metals within the rocks. Metal particles thus released seep through strainers into collection tanks.

A technology used for the first time in Finland, bio-heap leaching is low cost. "This thing doesn't use a lot of power," says Sabag, "because bugs work for free." The process is also environment-friendly, leaving in its wake tailings made

Price: C\$0.06

Market Cap: C\$4.49M

1 Year Share Price Graph



Share Information

Code: DNI
Listing: TSX-V, FRA
Sector: General Mining
Website: www.dnimetals.com

Company Synopsis:

DNI Metals Inc. is exploring metal enriched black shales over its 2,720 km² northeast Alberta land position to delineate bulk mineable mineral resources as a long term source to Base Metals, Uranium, Specialty Metals and Rare Earth Elements which are recoverable by heap leaching.

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up of benign inert gypsum with no associated risk of toxins.

Without tailings ponds to complicate matters, the ultimate fate of the site is straightforward. "You walk away from it and put a golf course on top," says Sabag. "What you've done is de-acidified a whole tonne of rock --there's nothing to do to it other than just landscape it and cover it up, so the reclamation plans are relatively simple."

Before the process of reclamation, however, comes a heap leach operation for which staggering amounts of rock -- 50 to 100 million tonnes -- are broken annually.

"And here we have to start thinking like the oilsands industry, which is basically a dirt moving business with a petrochemical plant attached at the tail end. Bulk mining of low grade deposits is a dirt moving exercise with leach pads attached to the end and finally a metal recovery plant that takes the liquid that is leached out and is full of the metals, and starts stripping them out one by one into saleable products.

"These are essentially process engineering projects rather than geological projects."

As Sabag points out, the multiplicity of metals yielded is really nothing new, as polymetallic mines are by no means unknown in more conventional mining. He cites the example of Bingham Canyon, a putative copper mine that has been in operation for well over a hundred years and is the author of "about 17 or 18 different kinds of metal."

"All that means is once you get your different metals into a solution, instead of having one step in your chemical process of re-precipitating it back out, now you've got 2, 3, 5, or in our case something like 7 steps. It does add to costs at the tail-end -- typically these types of projects will carry capex of \$1.5 to \$2.5 billion -- but when you start amortizing your funds and all your expenditures over the mine life, it's absurdly inexpensive."

"You can mine these things for about a quarter the cost of a traditional mine," he adds.

When it comes to getting the treasure trove out of the ground, Sabag emphasizes that DNI is not a mining company. "We don't have any interest in getting into the mining business. When it comes to these mega-projects, more often than not they're brought into production by end users or funded through off-take agreements."

Typically, he explains, these customers are comprised of companies that need the metal for the next 50 years, such as Mitsubishi, Samsung, or Sino-Steel - fairly large entities that are more interested in securing a source of metals than securing profit and cash flow.

Hence the scoping study, usually the first step for any would-be suitor. With no further technical work to be carried out once that report is in hand, the company has a cash position that enables it to "keep the lights on for at least a year," says Sabag.

When it comes to permitting, jurisdiction is on DNI's side, in that deposits are located in the oilsands region, which puts the Canadian junior in fine company.

"We are surrounded by something like 40 other operations -- oil sands operations -- all of whom are going through the same kind of issues. If you were to try to put a mine that opens up large kilometres of ground on the surface, this is the place you would want to have it because everyone around it does the same thing.

"You have a regulatory fabric, a permitting fabric that is designed to anticipate applications to open up large holes in the ground."

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