



DESERT MINES AND METALS LIMITED

ABN 56 123 102 974

# ASX RELEASE

ASX:DSN

14 October 2013

Molybdenum and Tungsten  
Exploration – South Korea  
Diversified Minerals  
Exploration – Western  
Australia

## Substantial Shareholders

Aurora Minerals Limited	37%
Indo Gold Limited	9%
W. Goodfellow	8%

Shares on Issue: 160M

[www.desertminesandmetals.com](http://www.desertminesandmetals.com)

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## COMMENCEMENT OF SCOPING STUDY ON DAEHWA MINE DEVELOPMENT

Following the recent grant of the Mining Permit over Tenement 76166, the Directors of Desert Mines and Metals Limited (“**Desert**” or the “**Company**”) are pleased to provide an update on its Daehwa Project in South Korea.

The Company is commencing a scoping study to investigate the early development of the Daehwa Mine. Among other matters the study will consider:

- **Trial mining and bulk sampling options including detailed costing**
- **Optimal strategy for re-accessing historic underground workings**
- **Potential investment and off-take arrangements with strategic Korean parties**
- **Early mine development opportunities, including drilling and underground sampling requirements in order to generate sufficient resources for an orderly development of the project**
- **Infrastructure requirements, including power, water and waste disposal**
- **Community and government liaison**

Desert has collected a 100kg sample of selected higher grade molybdenum mineralisation specimens from an historic mullock stockpile for preliminary metallurgical testwork. The sample will be treated in Korea by a third party to determine if their processing technology is applicable. A small sample of the test material is shown in Figure 1.

*Chris Rashleigh MD notes: “We are very encouraged by the rapid progress we are making in South Korea with our Daehwa project and the commencement of a scoping study will help direct our ongoing exploration and mine development options. Desert has already received several expressions of interest with respect to financing and off-take and the company looks forward to progressing these discussions along with the scoping study”*

The scoping study is expected to be completed by the end of December 2013.

*Figure 1: Mineralised specimens for preliminary metallurgical testwork*



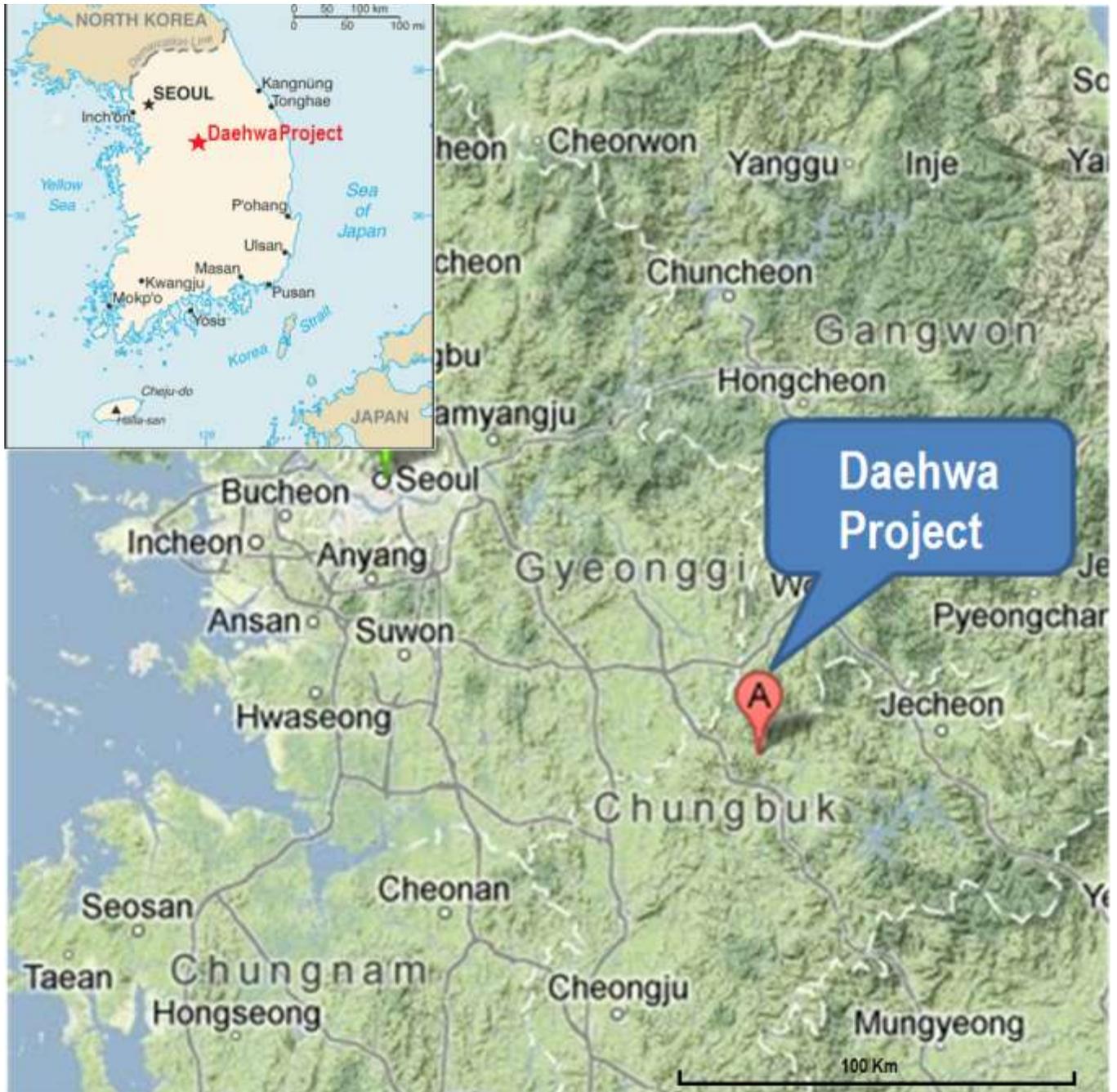
## **DAEHWA PROJECT**

The Daehwa Project is located about 100 km southeast of Seoul in Chungbuk Province in Central South Korea (Figure 2). The Daehwa Project contains two former narrow vein underground molybdenum /tungsten mines, Daehwa and Donsan. It is comprised of three Mining Rights with granted tenure, subject to performance conditions, until 2027-2028.

Mining activity at Daehwa/Donsan commenced in 1904 and the mines operated semi-continuously through until 1984. It is believed that the mines closed during a period of low commodity prices.

Exploration in South Korea is conducted through wholly owned Korean Resources Pty Ltd (“**KRL**”) and in turn its wholly owned subsidiary Suyeon Mining Company Limited (“**SMCL**”). SMCL has contractual rights to acquire the Daehwa Project. Recent drilling confirms that the mineralisation extends well below and into the hangingwall of the historic workings and this has been reported in previous announcements.

Figure 2: Daehwa Project – Location Map



## Background on Molybdenum and Tungsten

Molybdenum and Tungsten are both metals whose principal use is as alloying agents in the manufacture of specialty steels.

Molybdenum (Mo) metal is used mostly in steels and superalloys to enhance strength, toughness, thermal and corrosion resistance, and to reduce brittleness. Applications include high speed steels, stainless steels, high temperature steels and in cast iron.

The US Geologic Survey (USGS) estimated that world molybdenum production in 2011 amounted to 250kt. China, the USA, Chile and Peru accounted for about 86% of global outputs in 2011 with China producing 94kt, followed by the USA with 64kt, Chile with 38kt and Peru with 18kt. The most common economic mineral from which Mo is extracted is molybdenite ( $\text{MoS}_2$ ).

The principal source of the metal is from porphyry copper-molybdenum mineralisation notably in the USA, Chile and Peru. Mo grades in porphyry deposits vary widely but rarely exceed 0.25% and can be as low as 0.01% for bulk tonnage systems where Mo is mined as the primary economic commodity or as a co-product or by-product. Typically, the lower grade deposits enjoy co-product credits such as copper or tungsten. Mo is often recovered as a by-product of copper production.

Mo is also mined from narrow vein deposits including in China, CIS and South Korea. Grades of Mo in economically recoverable vein deposits are more varied but are generally higher grade ranging up to several percent Mo.

*Sources: International Molybdenum Association, USGS, Geoscience Australia*

Tungsten (W) metal and its alloys are amongst the hardest of all metals and has the highest melting point of all pure metals. Tungsten is noted for its hardness and high temperature capabilities which makes it desirable for many industrial applications. Tungsten's range of properties also makes it difficult to substitute it with other metals. The major use for tungsten is within cemented carbides, which are also called hard metals. Tungsten carbide is used for cutting and in wear-resistant materials, primarily in the metalworking, mining, oil drilling and construction industries. Tungsten alloys are used also in electrodes, filaments (light bulbs), wires and components for electrical, heating, lighting and welding applications.

The USGS estimated that world production of tungsten in 2011 amounted to 72kt. China was the major producer with approximately 83%, followed by Russia with 4.3%. USA production was not recorded for confidential reasons. Over the past few years, the Chinese Government has restricted the amount of its tungsten ores which can be offered on the world market by applying export quotas and taxes. The most common economic minerals from which W is extracted are scheelite ( $\text{CaWO}_4$ ) and Wolframite ( $\text{Fe,Mn} \text{WO}_4$ ).

Tungsten is typically mined from skarn, vein and greisen deposits. It is commonly mined in association with Mo and/or tin in various styles of deposits. Economic grades mined rarely exceed 1% W in ore and are typically much lower with cut-off grades as low as 0.05% W reported.

*Sources: USGS, Geoscience Australia*

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*The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Daniel Noonan, a Member of The Australian Institute of Mining and Metallurgy. Mr Noonan is Exploration Manager for the Company and is employed as a consultant.*

*Mr Noonan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Noonan consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.*