



Haoma Mining NL

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Dear Shareholder,

Haoma Mining Recent Activities Update

- 1. Commencement of Production at Bamboo Creek**
- 2. Rare Earths**
- 3. Exercise of Haoma Mining Share Options**

1.0 Commencement of Production at Bamboo Creek

1.1 Bamboo Creek Tailings Gold Grade based on Physical Gold Recovered

Haoma Mining is pleased to advise shareholders that a viable method of extracting gold (as physical gold) from Bamboo Creek Tailings has been developed.

Haoma is currently able to extract 161.01 g/t of gold from the Bamboo Creek Tailings based on the physical gold recovered.

In addition, during the process PGM (Platinum Group Metals) and gold were extracted into acid solution and measured. This equated to 28.78 g/t of additional gold which is available to be recovered from the Bamboo Creek Tailings.

1.2 Bamboo Creek Processing of Nuggety Gully Scree

Over the last 2 weeks recommissioning of the Bamboo Creek Plant was completed. A total of 225 dry tonnes of Nuggety Gully Scree was processed (at 30-40 t/hr). The initial run showed some commissioning issues and highlighted the need for minor plant modifications.

The physical gold recovered in ‘**nuggets and coarse gold**’ from the 225 dry tonnes of Nuggety Gully Scree processed by the ‘Jig’ and ‘Knelson concentrator’ was 149.356g. The recovered gold analysed by XRF assayed: Gold 78.82% and Silver 16.48%. **This equates to 0.52 g/t gold from the Nuggety Gully Scree processed through the plant.**

Additional ‘**fine gold**’ is still to be recovered from the ‘Gravity concentrate’ (2% of the plant feed) produced from the plant gravity circuit.

Haoma Mining is pleased to advise shareholders that a viable method of extracting gold (as physical gold) from the ‘Gravity concentrate’ has been developed. Testwork on extracting gold (as physical gold) from the ‘Gravity concentrate’ has resulted in Haoma being able to **recover an additional 4.5g/t gold from the Nuggety Gully Scree processed through the plant.**

2. Rare Earths

Haoma, in conjunction with consultants at the University of Melbourne School of Engineering, is continuing to evaluate the extent of Rare Earths located on its Pilbara tenements at Bamboo Creek, Mt Webber and surrounding areas with a view to assessing the viability of extracting Rare Earths for commercial sale.

Recent analysis of subsamples of concentrates and treated concentrates from the processing of Nuggety Gully Scree by X-ray Fluorescence at the University of Melbourne identified a number of Rare Earth and other elements. The grades identified are based on the sample grade and are not reflected to ‘Head Grade’ although the concentrates represent more than

0.5% of the ore. Some of the elements are reported with a higher level of certainty than others. Work has commenced to ascertain if these Rare Earths and non-PGM elements can be extracted and isolated.

Rare Earths	Symbol	Atomic #	XRF (ppm)
Scandium	Sc	21	196
Yttrium	Y	39	1128
Lanthanum	La	57	0
Cerium	Ce	58	2659
Praseodymium	Pr	59	0
Neodymium	Nd	60	0
Promethium	Pm	61	0
Samarium	Sm	62	554
Europium	Eu	63	>1000*
Gadolinium	Gd	64	>1000*
Terbium	Tb	65	>1000*
Dysprosium	Dy	66	0
Holmium	Ho	67	0
Erbium	Er	68	1680
Thulium	Tm	69	0
Ytterbium	Yb	70	0
Lutetium	Lu	71	0
Other Elements			
Titanium	Ti	22	69894
Rubidium	Rb	37	597
Niobium	Nb	41	149
Hafnium	Hf	72	2964

- Conclusive identification and quantification not ascertained

Rare Earths are crucial to the supply of elements used in modern technologies including medical uses, mobile phone components, electric cars, magnetic power generators, magnetic separators, batteries, etc.

A description of all 17 Rare Earths and their uses is attached as Appendix A.

3. Exercise of Haoma Mining NL share options issued to Aldinga Way Pty Ltd

Shareholders were advised on February 22, 2019 that the Directors had approved the issue to Aldinga Way Pty Ltd of 2,367,000 share options to acquire Haoma shares at 30c per share which could be exercised at any time on or before June 30, 2019.

Haoma's Directors are pleased to advise that Haoma has received notification from Aldinga Way Pty Ltd that it wishes to immediately exercise the share options. It is anticipated this will be completed within the next week. Following completion of the share issue from the exercise of the options, Aldinga Way's shareholding in Haoma will exceed the 5% threshold required to constitute a substantial holding.

Haoma's Directors wish to acknowledge the contribution Mr Malcolm Broomhead has made as an adviser to the Board over the last few months. Mr Broomhead's advice has covered technical expertise in relation to works being conducted at Haoma's Bamboo Creek Processing Plant and proposed mining at Marble Bar and Mt Webber. Mr Broomhead has provided his assistance free of charge.

Yours sincerely,



**Gary C Morgan,
Chairman**

Appendix A: Rare Earths

Rare Earths are a series of chemical elements found in the Earth's crust that are vital to many modern technologies.

There are 17 elements that are considered to be Rare Earth elements: 15 elements in the lanthanide series and two additional elements that share similar chemical properties. They are listed below in order of atomic number:

Scandium or Sc (21)

Scandium, a silvery-white metal, is a non-lanthanide rare earth. It is used in many popular consumer products, such as televisions and fluorescent or energy-saving lamps. In industry, the primary use of scandium is to strengthen metal compounds. The only concentrated sources of scandium currently known are in rare minerals such as thortveitite, euxenite, and gadolinite from Scandinavia and Madagascar.

Yttrium or Y (39)

Yttrium is a non-lanthanide rare earth element used in many vital applications, such as superconductors, powerful pulsed lasers, cancer treatment drugs, rheumatoid arthritis medicines, and surgical supplies. A silvery metal, it is also used in many popular consumer products, such as color televisions and camera lenses.

Lanthanum or La (57)

This silver-white metal is one of the most reactive rare earth elements. It is used to make special optical glasses, including infrared absorbing glass, camera and telescope lenses, and can also be used to make steel more malleable. Other applications for lanthanum include wastewater treatment and petroleum refining.

Cerium or Ce (58)

Named for the Roman goddess of agriculture, Ceres, cerium is a silvery-white metal that easily oxidizes in the air. It is the most abundant of the rare earth elements and has many uses. For instance, cerium oxide is used as a catalyst in catalytic converters in automotive exhaust systems to reduce emissions, and is highly desirable for precision glass polishing. Cerium can also be used in iron, magnesium and aluminum alloys, magnets, certain types of electrodes, and carbon-arc lighting.

Praseodymium or Pr (59)

This soft, silvery metal was first used to create a yellow-orange stain for ceramics. Although still used to color certain types of glasses and gemstones, praseodymium is primarily used in rare earth magnets. It can also be found in applications as diverse as creating high-strength metals found in aircraft engines and in flint for starting fires.

Neodymium or Nd (60)

Another soft, silvery metal, neodymium is used with praseodymium to create some of the strongest permanent magnets available. Such magnets are found in most modern vehicles and aircraft, as well as popular consumer electronics such as headphones, microphones and computer discs. Neodymium is also used to make high-powered, infrared lasers for industrial and defense applications.

Promethium or Pm (61)

Although the search for the element with atomic number 61 began in 1902, it was not until 1947 that scientists conclusively produced and characterized promethium, which is named for a character in Greek mythology. It is the only naturally radioactive rare earth element, and virtually all promethium in the earth's crust has long ago decayed into other elements. Today, it is largely artificially created, and used in watches, pacemakers, and in scientific research.

Samarium or Sm (62)

This silvery metal can be used in several vital ways. First, it is part of very powerful magnets used in many transportation, defense, and commercial technologies. Second, in conjunction with other compounds for intravenous radiation treatment it can kill cancer cells and is used to treat lung, prostate, breast and some forms of bone cancer. Because it is a stable neutron absorber, samarium is used to control rods of nuclear reactors, contributing to their safe use.

Europium or Eu (63)

Named for the continent of Europe, europium is a hard metal used to create visible light in compact fluorescent bulbs and in color displays. Europium phosphors help bring bright red to color displays and helped to drive the popularity of early generations of color television sets. Fittingly, it is used to make the special phosphors marks on Euro notes that prevent counterfeiting.

Gadolinium or Gd (64)

Gadolinium has particular properties that make it especially suited for important functions, such as shielding in nuclear reactors and neutron radiography. It can target tumors in neuron therapy and can enhance magnetic resonance imaging (MRI), assisting in both the treatment and diagnosis of cancer. X-rays and bone density tests can also use gadolinium, making this rare earth element a major contributor to modern health care solutions.

Terbium or Tb (65)

This silvery rare earth metal is so soft it can be cut with a knife. Terbium is often used in compact fluorescent lighting, color displays, and as an additive to permanent rare earth magnets to allow them to function better under higher temperatures. It can be found in fuel cells designed to operate at elevated temperatures, in some electronic devices and in naval sonar systems. Discovered in 1843, terbium in its alloy form has the highest magnetostriction of any such substance, meaning it changes its shape due to magnetization more than any other alloy. This property makes terbium a vital component of Terfenol-D, which has many important uses in defense and commercial technologies.

Dysprosium or Dy (66)

Another soft, silver metal, dysprosium has one of the highest magnetic strengths of the elements, matched only by holmium. Dysprosium is often added to permanent rare earth magnets to help them operate more efficiently at higher temperatures. Lasers and commercial lighting can use dysprosium, which may also be used to create hard computer disks and other electronics that require certain magnetic properties. Dysprosium may also be used in nuclear reactors and modern, energy-efficient vehicles.

Holmium or Ho (67)

Holmium was discovered in 1878 and named for the city of Stockholm. Along with dysprosium, holmium has incredible magnetic properties. In fact, some of the strongest artificially created magnetic fields are the result of magnetic flux concentrators made with holmium alloys. In addition to providing coloring to cubic zirconia and glass, holmium can be used in nuclear control rods and microwave equipment.

Erbium or Er (68)

Another rare earth with nuclear applications, erbium can be found in neutron-absorbing control rods. It is a key component of high-performance fiber optic communications systems, and can also be used to give glass and other materials a pink color, which has both aesthetic and industrial purposes. Erbium can also help create lasers, including some used for medical purposes.

Thulium or Tm (69)

A silvery-gray metal, thulium is one of the least abundant rare earths. Its isotopes are widely used as the radiation device in portable X-rays, making thulium a highly useful material. Thulium is also a component of highly efficient lasers with various uses in defense, medicine and meteorology.

Ytterbium or Yb (70)

This element, named for a village in Sweden associated with its discovery, has several important uses in health care, including in certain cancer treatments. Ytterbium can also enhance stainless steel and be used to monitor the effects of earthquakes and explosions on the ground.

Lutetium or Lu (71)

The last of the rare earth elements (in order of their atomic number) has several interesting uses. For instance, lutetium isotopes can help reveal the age of ancient items, like meteorites. It also has applications related to petroleum refining and positron emission tomography. Experimentally, lutetium isotopes have been used to target certain types of tumors.