



## QUARTERLY REPORT TO 31 DECEMBER 2013

### HIGHLIGHTS

- In December 2013, BlueScope Steel (AIS) Pty Ltd (BlueScope) agreed with Austpac to undertake a bulk trial at the Newcastle Iron Recovery Plant (NIRP) to recover iron from the fine iron oxide dusts produced by one of its steel mills. BlueScope also has the right to negotiate licences to use the Company's recycling technologies at their steel mills.
- Austpac's processes are believed to be the only viable technology to treat contaminated steel mill dusts. Discussions have commenced with a number of international steel producers who have indicated an interest in the Company's technologies
- In November 2013, Austpac announced a private placement of 71,666,666 fully paid ordinary shares at 3 cents each raising \$2,150,000. These shares were placed with professional investors. The funds will be used for working capital and completion of construction and commencement of commissioning of the Newcastle Iron Recovery Plant.
- Construction and commissioning of the Newcastle Iron Recovery Plant is continuing. The Plant which will showcase Austpac's proprietary waste recycling technologies to the steel industry.
- The expansion and upgrading of the pilot scale facility at the Plant has now been completed. The new equipment will facilitate the testing of a wide variety of steel mill wastes, especially fine iron oxide dusts, to verify they will be suitable as feed for the Plant.
- At EL 5291 (Nhill) during the quarter, one air core hole was drilled through 120 metres of marine sediments to obtain samples from the underlying Mount Stavely Volcanic Complex. Recent government studies have highlighted the prospectivity of this belt in Western Victoria, and exploration activity has focussed on two target types; base metal-gold massive sulphide and porphyry copper deposits. Samples of the weathered basement recovered from 144m down the hole comprise intensely altered mafic volcanics, which are more pervasively altered than previous basement samples, suggesting the hole may be closer to a hydrothermal alteration centre. Further drilling is planned to test this target in the March 2014 quarter.

## BlueScope Steel Agreement

In December 2013, Austpac announced the Company had signed an agreement with BlueScope Steel, Australia's largest steel producer, to undertake a bulk trial to recover iron and other by-products from waste iron oxide dusts. This agreement follows extensive laboratory and pilot scale testwork previously undertaken at Newcastle on BlueScope's dusts, which produced samples of high quality iron.

BlueScope will provide a 1,000 tonne sample of dusts collected from the off-gases produced from their steel-making processes, together with sufficient spent pickle liquor, which Austpac will process at the NIRP to produce saleable iron briquettes, hydrochloric acid and other by-products. Austpac will initially use mill scale to commission the NIRP, and BlueScope's dusts will be processed during the latter part of commissioning. BlueScope has agreed to purchase the iron briquettes at appropriate commercial market rates, and plans to trial them at their Port Kembla steel-making facility.

BlueScope operates steel processing facilities in New South Wales, Victoria and New Zealand. When the trial has been completed, BlueScope has the right to negotiate with Austpac for licences to use the technology at one or more of their plants.

Iron oxide dusts are produced by all steel making facilities and they often contain other minor metals such as zinc, making them difficult to recycle due to accumulation issues. Consequently many facilities around the world have very large stockpiles, some containing millions of tonnes of the waste dust. Austpac's process separates and concentrates these minor metals allowing them to be recovered. BlueScope is the first steelmaker to recognise the potential of and commit resources to Austpac's recycling technologies.

Austpac's processes are believed to be the only viable technology to recover both iron and minor metals from steel mill dusts. Once the trial is completed, the Company will be well placed to licence its technologies to iron and steel plants around the world. Discussions have commenced with international steel producers who are interested in Austpac's technologies.

## Construction of the Newcastle Iron Recovery Plant Continues to Progress

### The North Tower Extension

Most steel sections for the north tower extension have been fabricated and are being installed as they are delivered to site. The tower houses the EARS and metallisation section, which comprises four fluid bed reactors (the low temperature Evaporator-Pelletiser, the Pyrohydrolysis roaster, and the Gasifier-Metallisation roasters) together with the ancillary gas scrubbers and pumps.

The two fluid bed roasters for iron oxide reduction which must be installed first are awaiting completion of their refractory lined plenum and gas distributor plates. Once these are fitted, the roasters will be installed beside the stoves (now in place) at the lowest level of the north tower.



### The Mill Scale Preparation Section

In late 2013, modifications were made to the mill scale preparation section to enable the Plant to handle very fine material such as the iron oxide waste dusts produced by furnaces during the iron and steel making processes. Closed chutes and hoppers, covers for the conveyors and a cover over the trommel have been installed to minimize dust emissions and protect the mill scale and fine dusts from wind and rain.



### The Pilot Scale Facility

The expansion and upgrading of the pilot scale facility at the Plant has been completed. This facility will allow testing of a wide variety of steel mill wastes, especially fine iron oxide dusts, to verify they will be suitable as feed for the Plant. It will also be used for preliminary scoping of BlueScope's dusts prior to running the 1,000 tonne sample through the NIRP.

The equipment has been designed to duplicate the processes being undertaken in the NIRP, and it includes an evaporator to produce mixed iron oxide-iron chloride pellets from fine dusts and pickle liquor, and a new batch fluid bed roaster for both pyrohydrolysis and metallisation.



**The fluid bed evaporator being prepared for operation**



**The batch fluid bed roaster for pyrohydrolysis and iron reduction (foreground) connected to the venturi-scrubber for acid and dust collection**

### **EL 5291 Nhill**

Austpac is undertaking a low-key investigation of the gold and base metal potential within its wholly owned Exploration Licence 5291 near Nhill in western Victoria. Activities are focussed on a NNW-trending belt of Cambrian rocks known as the Mount Stavely Volcanic Complex, which are characterised by very strong features in government aeromagnetic and gravity data. This part of Victoria has only recently received attention following positive studies by Geoscience Victoria and the national agency, Geoscience Australia. Several resource companies are also enthusiastic about the mineral potential of this belt, and one is finalising an Initial Public Offering to evaluate targets in western Victoria. The Mount Stavely units have been considered to be the equivalent to the well-mineralised Mount Read Volcanics of western Tasmania, while an alternative interpretation considers these rocks to be associated with an ancient tectonic boundary analogous to the Macquarie Arc in NSW, which hosts large porphyry copper deposits such as Cadia Ridgeway. This interpretation is supported by recent exploration which has identified a number of porphyry style prospects with encouraging anomalous mineralisation within the Mount Stavely Volcanics.

Austpac's previous work within EL 5291 included a broad gravity survey and a detailed ground magnetic survey to outline anomalies that could represent permissive geology for base metal mineralisation below a thick blanket of younger sediments. In May 2013, three rotary holes were drilled to test low-amplitude magnetic anomalies. Each hole passed through 120m of sediments before intersecting the weathered top of Cambrian basement, which while not geochemically anomalous, were altered and veined intrusive rocks.

During the December 2013 quarter, Austpac completed a low cost vertical air core drillhole to test the edge of a circular low magnetic anomaly in the Cambrian basement. Samples recovered from the base of the drillhole at 144m depth were extremely oxidised and hence not geochemically anomalous, but petrology indicated they are intensely altered mafic volcanics, representing a component of the target Mount Stavely Volcanic Complex. Two hydrothermal alteration events were identified; an early higher temperature phase introducing magnetite, and a later lower temperature epidote-quartz-chlorite assemblage which resulted in magnetite destruction. The basement at this site is more pervasively altered than the basement samples from the three earlier holes, which suggests the fourth hole may be closer to the centre of hydrothermal alteration.

#### **Mining Exploration Entities**

EL 5291 (Nhill); Located between Nhill and Dimboola, Victoria; 100% Austpac Resources N.L.

#### **For further information please contact:**

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*NOTE: This report is based on and accurately reflects information compiled by M.J. Turbott who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Fellow of the Australian Institute of Geoscientists and is a competent person as defined in the Australian Code for Reporting of Identified Mineral Resources and Ore Reserves.*

#### **About Austpac Resources N.L. (ASX code: APG)**

Austpac Resources N.L. [[www.austpacresources.com](http://www.austpacresources.com)] is a minerals technology company currently focused on recycling waste chloride solutions and iron oxides produced by steel making to recover hydrochloric acid and iron metal. Austpac's technologies also transform ilmenite into high grade synthetic rutile, a preferred feedstock for titanium metal and titanium dioxide pigment production. The Company has been listed on the Australian Stock Exchange since 1986.