

4 July 2019

SHAREHOLDER UPDATE

ZIRP TESTWORK PROGRAM PROGRESS

- **ZIRP modelling and design of improvements finalised.**
- **ZIRP produces saleable products from steel industry by-products.**
- **With three process stages previously proven, test work is underway to prove final stage of ZIRP process.**
- **Completion testwork program will lead to national and worldwide commercialisation.**

Austpac is pleased to advise that the modelling and design of improvements to equipment are finalised. This is required for the testwork program to prove the final stage of the Company's Zinc Iron Recovery Process ("ZIRP"). ZIRP produces saleable pig iron, zinc oxide and strong hydrochloric acid from two steel industry by-products, zinc-contaminated furnace dust and spent pickle liquor (SPL).

As the EVAP, PYRO and FBPR process stages have been previously proven, and the objective of the ZIRP testwork is to prove the fourth process stage; melting FBPR pellets in an electric induction furnace (the EIF stage) to produce samples of pig iron and zinc oxide for market evaluation.

The design, fabrication, modification and installation redesigned plenum for the EVAP unit and the refurbishment and installation of a fluid bed roaster for the PYRO and FBPR stages is being undertaken by Compass Engineering Solutions, onsite and at their facilities on the Central Coast, NSW. Austpac's management team also undertook upgrade activities on ancillary equipment at the plant.

The completion of the proof of concept testwork for the ZIRP process in the coming months will lead to opportunities for commercialisation in the Australian and the steel industry worldwide.

Progress includes:

Fluid Bed Evaporator (EVAP) (Stage 1)

- Fabrication of the plenum for the EVAP unit nearing completion.
- Internal modifications to the EVAP unit complete.
- New pumps to deliver the furnace dust slurry and the SPL to the unit installed.
- The stirred mixing tank for the furnace dust slurry has been replaced with a bottom-fed fluidised tank to ensure a constant density slurry feed to the EVAP is maintained.

Pyrohydrolysis and Fluid Bed Pre-Reduction (PYRO & FBPR) (Stage 2 and 3)

- An existing 250mm fluid bed roaster will be used in campaigns to undertake the two process stages. Compass Engineering's workshop is repairing and modifying this roaster.
- Compass has also installed support Infrastructure for the roaster.

- An existing scrubber and pumps have been relocated to handle the roaster off-gases.
- Compass is also fabricating two new screw conveyors to feed pellets and coal into the roaster and one to remove solid products.



Fluidised furnace dust slurry feed tank



Dust slurry feed preparation area



Fluid bed roaster repairs are underway at Compass Engineering's workshop

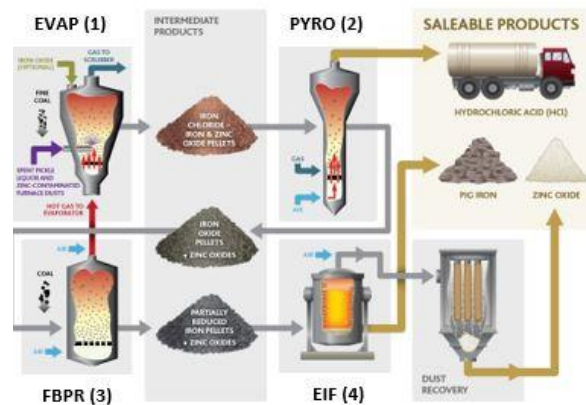


The fluid bed roaster will be installed to the left of the relocated roaster gas scrubber

Ongoing work at Newcastle

Installation of the new plenum and infrastructure for the EVAP unit will commence in July 2019. At the same time the upgraded dual fluid bed (PYRO and FBPR) will be installed. Commissioning will commence once the modifications to the plant are completed

Terry Cuthbertson
Chairman



The Four-Stage ZIRP Process for Recycling Zinc-Contaminated Furnace Dust