

10 October 2019

SHAREHOLDER UPDATE
ZIRP PROOF OF CONCEPT PROGRAM PROGRESSED
DURING THE SEPTEMBER QUARTER

Initial commissioning of the EVAP unit commenced in August 2019 as planned. Modifications necessary to ensure the smooth operation of the equipment used in the furnace dust slurry preparation area have been completed. This included:

- Improvements were made to the solids delivery feed system to the ball mill to obtain a constant feed rate to the mill.
- Modifying the pipework and pumping system for the new constant density slurry tank to ensure the solids remain in suspension.
- The EVAP fluid bed unit was raised ~300mm to accommodate the new larger plenum, and the adjacent off-gas scrubber for the EVAP was also repositioned. During final on-site assembly of the plenum in early October, it was noted that the bellows required modifying to ensure solids were retained within the fluid bed. This is presently being rectified.
- New pumps and piping lines have been installed to feed both the dust slurry and SPL into the EVAP unit and to connect the off-gases with the EVAP gas scrubbing system.
- The final EVAP task is insulating the hot gas ducts, disengagement zone and the plenum prior to hot commissioning. This will be followed in late October by EVAP operations to produce iron-zinc oxide/iron chloride pellets for processing in Stage 2; PYRO.

Installation of the equipment for Stages 2 (PYRO) and 3 (FBPR) is also well-advanced:

- The dual-duty fluid bed roaster body for PYRO and FBPR has been installed.
- The hoppers and solids screw feeders for pellets and coal have been installed.
- The hot solids discharge screw is in the final fabrication stage and will be installed next week.
- During the September 2019 quarter, Austpac personnel and contractors installed acid-resistant PVDF piping to connect the roaster with the off-gas scrubbing system and to transfer the scrubbed gases to the exhaust stack.
- The roaster is now being insulated, and together with its ancillary equipment, it will be commissioned when the EVAP production run is completed.

The production runs for EVAP, PYRO and FBPR will be undertaken in a continuous three-week campaign commencing in late October 2019. The first three stages of the Proof of Concept program will be completed at Newcastle by mid-November 2019. This will be followed by the final process stage; off-site melting trials in an electric induction furnace to produce pig iron and zinc oxide.

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