

Tschudi Copper Project

Maximising value-addition by producing pure refined copper for the first time in Namibia





Weatherly

- *Weatherly is a London-based resources company focused on copper in Namibia. Together with our Namibian shareholders, we produce, develop and explore; creating jobs and expertise, and maximising mining value-addition to resources in Namibia.*
- Produce
 - Otjihase & Matchless
- Develop
 - Tschudi
 - Berg Aukas
 - Tsumeb West & Tsumeb Tails
- Explore
 - EPL132A Tschudi to Tsumeb





Tschudi

- A new open pit, heap leach, SX-EW copper project
- Peak open pit mining rate of 25 million tonnes of rock per year
- Production rate of 17,000tpa of pure refined copper cathode for initial mine life of 11 years
- Initial investment to first copper production of more than N\$800 million
- 800 jobs during construction, and 500 thereafter for operations
- Construction underway, and remains on schedule for first copper production in Q2 2015



Benefits

- Jobs
 - 800 during construction, 500 thereafter, plus many more indirect jobs created in the Tsumeb area
- Skills
 - mining, processing and engineering
- Local participation
 - 10.8% of Weatherly is owned by Namibian shareholders, and the majority of the construction packages have been awarded to Namibian providers
- Value-addition
 - Downstream - producing refined copper metal for the first time
 - Upstream – utilising Namibian-produced sulphuric acid from Dundee's Tsumeb smelter



Why a first?

- Copper is commonly produced by processing ore to make a concentrate – typically containing 20-40% copper
- The concentrate is then smelted to produce “blister copper”, at approximately 98.5% purity – as produced in Tsumeb
- This blister copper must then be refined by an electrolytic process to produce 99.99% pure copper cathode, which is then suitable feedstock for manufacturing
- This refining step is currently carried out overseas



Why a first?

- At Tschudi, we will utilise a different processing technology
 - acid heap leaching followed by solvent-extraction (SX) and electro-winning (EW)
 - produces pure refined copper cathode on site
- Acid heap leach - similar to Trekkopje (alkaline heap leach)
- SX-EW – similar to Skorpion (zinc)
- Combining these technologies for copper for the first time in Namibia
- Extensively practiced successfully elsewhere – including North and South America, Australia, Zambia / DRC, etc.



Why SX-EW for Tschudi?

- The geology of the Tschudi deposit suits acid leaching – sandstone host rock plus leachable copper minerals, yielding approximately 85% copper recovery and modest acid consumption
- Proximity of an affordable supply of sulphuric acid (Tsumeb smelter)
- Affordable and reliable power supply

Heap Leach



SX-EW





Upstream value-addition

- Key input to acid heap leach processing is sulphuric acid
- Dundee Precious Metals Tsumeb will be commissioning their new sulphuric acid production plant in 2015, meshing well with startup timing for Tschudi



Safety & Environmental Protection

- Open pit mining
 - conventional best-practice requirements during operations
 - progressive rehabilitation of waste rock stockpiles before closure
- Heap leaching
 - drippers not sprinklers
 - engineered and lined pad and drainage system (acid contains the product)
 - minimal acid transport (local supplier)
 - leached heap rehabilitated upon closure
- SX-EW
 - fundamentally a very clean process with minimal emissions
 - fluid containment and fire prevention given highest priority from design stage onwards
 - full removal and rehabilitation upon closure

Progress



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Summary

- Tschudi is an exciting new major project, creating jobs, skills and extensive upstream- and downstream- value-addition in Namibia by producing 99.99% pure refined copper metal for the first time
- The heap-leach SXEW technology is clean, reliable and proven – and developing these skills in Namibia may open up further copper mining opportunities in future
- First copper production is due in Q2 2015